CALIFORNIA STATE TEACHERS' RETIREMENT BOARD

INVESTMENT COMMITTEE

SUBJECT: General Pension Consultant
Finalist Interview and Selection

ITEM NUMBER: 4

ATTACHMENT(S): 4

ACTION: X

DATE OF MEETING: April 7, 1999

INFORMATION: ____

PRESENTER(S): Mr. Mitchell

One of the 1998/99 objectives for the Investment Branch was to complete a request for proposal for general consultant. The current general consultant contract is scheduled to expire April 30, 1999. In November 1998, the Investment Committee approved a Request for Proposal (RFP) to seek up to three (3) qualified firms to provide general pension consulting services with specific approval of the timeline, purpose, services to be provided, minimum qualifications, fee structure, proposal evaluation, and proposal questionnaire.

During February, 89 RFPs were mailed or downloaded from CalSTRS' website to interested parties, resulting in six respondents. All six respondents met the minimum qualifications. Following proposal evaluation, five firms were identified as finalists to be interviewed by the Investment Committee.

The following attachments include:

Attachment 1 - Synopsis of each of the five finalists' RFP responses.
Attachment 2 - Summary of scores.
Attachment 3 – Sample of final score sheet
Attachment 4 – Resolution

The interview schedule is as follows:

Tuesday, April 6, 1999
3:00 p.m. Watson Wyatt Investment Consulting
4:00 p.m. Pension Consulting Alliance

Wednesday, April 7, 1999
8:30 a.m. BARRA Rogers Casey
9:30 a.m. Callan Associates Inc.
10:30 a.m. Mercer Investment Consulting, Inc.

Attachment 1 – Exhibit A
Investment Committee – Item 4
April 6, 1999

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
GENERAL PENSION CONSULTANT(S)

PROPOSAL QUESTIONNAIRE

A. FIRM NAME:	**Watson Wyatt Investment Consulting**
B. MAIN ADDRESS:	**345 California Street, Suite 1400** **San Francisco, CA 94104**
C. CONTACT:	**Name: Carolyn Smith** **Title: Director**

ORGANIZATIONAL BACKGROUND

Q. Please give a brief history of your firm, including the year the firm was founded. Specify the number of years your organization has been providing pension consulting services to tax exempt organizations.

Watson Wyatt & Company was founded in 1945 and has provided investment consulting services since 196 1. In 1986, Watson Wyatt & Company decided to form a separate subsidiary, Watson Wyatt Investment Consulting (WWIC). WWIC is a registered investment advisor under the Investment Advisers Act of 1940. Watson Wyatt has been providing asset liability modeling studies for 39 years and the full range of investment consulting services for 12 years.

Q. Describe the ownership structure of your firm. Identify affiliated or subsidiary organization(s). Do investment professionals participate in equity ownership? If equity ownership is not available, is there a specific arrangement for sharing in the profits earned by the enterprise? Please describe.

Watson Wyatt Investment Consulting is a wholly owned subsidiary of Watson Wyatt & Company. Watson Wyatt & Company is 100 percent employee-owned. Associates of Watson Wyatt Investment Consulting are offered ownership in Watson Wyatt & Company after completing one year of service.

Q. List the location of your headquarters and branch offices. State the primary function of each office.

Watson Wyatt & Company (parent) is headquartered in Bethesda, Maryland. In the US we have teams of investment consultants, analysts, etc. located in Boston, Chicago and San Francisco. Additionally, we have a consulting office in Atlanta along with our centralized research group. The State Teachers' Retirement System (STRS) would be serviced from our San Francisco office.

Outside of the US, we have three hubs located in Reigate, England, Hong Kong and Tokyo. In addition to these hubs, we have investment consulting offices in Amsterdam, Brussels, Lisbon, London, Manila, Mexico City, Montreal, Manila, Singapore, Sydney, Taiwan, Toronto, and Vancouver.

PROFESSIONAL STAFF

Q. Provide the names of professionals who will be assigned to the STRS account including the primary consultant and principal assistant [identify the primary consultant with an asterisk(*)]. Include the length of experience in pension consulting/advisory services.

For each client, we establish a consulting team that includes a lead consultant and at least one back-up consultant. An internal team of professionals and support staff will also assist those consultants. The consulting team has primary responsibility for managing the relationship and coordinating all of the services offered by WWIC. Our commitment to the STRS is to provide our best talent, regardless of their location.

The following table indicates the team that would be assigned to the STRS account.

KEY PROFESSIONALS				
		Investment Experience		
Name	**Title**	**With Firm**	**+ Prior**	**= Years**
Carolyn Smith*	Director, Western Region	5	10	15
Adrian Anderson	Director, Public Funds	3	14	17
Ellen Clark	Senior Consultant	2	15	17
Michael Carter	Senior Actuary	23	9	32
Brian Hersey	Director, Eastern Region	1	24	25

ASSET ALLOCATION

Q. Please describe your process for determining the appropriate asset allocation for a public pension fund. At a minimum, include the criteria for which you base your assumptions.

The asset allocation posture of a pension plan is a very important decision, and is one that should not be taken in isolation of the plan's liabilities. As the objective of the plan is to fund a defined set of future cash flows to participants, these cash flows must be factored into any and all future financial planning decisions. Primary among these decisions is the strategic asset allocation

stance of the plan, and hence a thorough understanding of the characteristics of the plan's liabilities, in particular the projected liability growth and their sensitivity to inflation and changes in interest rates, is required to effectively discharge the fiduciary role in establishing asset allocation strategy for the plan.

An important issue deserves and demands a rigorous and sophisticated tool to help guide decisions. Watson Wyatt recommends the technique of asset liability modeling (ALM) for this purpose.

Asset/ Liability Modeling

ALM can be used by a wide variety of financial institutions such as pension funds to help understand the likely future consequences of current management actions, and to help set long-term asset allocation strategies and funding policies which are appropriate for the liabilities and risk tolerance of the plan.

The technique forms an extension to a normal actuarial valuation, and as the name suggests builds upon the relationship between a plan's assets and liabilities. The parameters (such as inflation, interest rates and return on assets) which in a normal valuation are assumed to be fixed, are allowed to fluctuate in a controlled manner about their long-term assumed values. By considering the assets and liabilities in this manner we are able to calculate a range of likely future financial outcomes and statistics for the plan, from which inferences can be drawn.

Significant benefits in carrying out an asset liability modeling study include:

- The discussions that accompany such an investigation should improve the fiduciary's understanding of the investment requirements of the plan.

- Such studies provide a way of explicitly examining the implications of different investment policies and different funding scenarios, and hence ALM provides a financial planning framework for the plan.

- The results should help to steer asset allocation in the most appropriate direction for the plan's particular liabilities and attitude to risk and return.

- The process enables clearer and more relevant investment objectives to be set both for the managers and for the plan as a whole.

- The rigor of the process is a clear means of demonstrating due diligence in the discharge of fiduciary responsibilities.

Watson Wyatt's Asset Liability Modeling Capability

Watson Wyatt has been involved in asset liability modeling since the inception of this technique in the early 1960s. Our model has been extensively field tested in conducting ALM Studies for some of the world's largest corporate and public pension plans', and is continuously being developed to keep pace with changing technology.

Why Watson Wyatt for ALM?
The benefit derived from an asset liability study is tied to a large degree to the quality of the process being used, and to the quality with which it is used. As the term asset liability modeling implies, it is only by blending a detailed knowledge of a plan's liabilities and objectives with an understanding of its assets, that the full value of such a process can be realized. At Watson Wyatt a team of experienced professionals, both actuarial and investment, work on each project, which results in complete, comprehensive and customized analysis.

Following are the steps and procedures Watson Wyatt Investment Consulting (WWIC) uses when conducting asset/ liability modeling studies on behalf of our clients.

- **Data Collection** - Historical data regarding past allocation decisions, demographic information, etc. is collected to place the current position of the plan into perspective. This information, combined with current data, forms a solid basis for understanding the needs, aims and objectives of the modeling study.

- **Develop Asset Specifications** - We will work with STRS's staff and Investment Committee to determine the asset classes to be considered, focusing on what is practical and reasonable from a risk versus return and cost basis. Asset return assumptions and the structure of the asset model are then developed focusing on the client's needs. The set of asset assumptions includes prospective investment returns, standard deviations, correlation coefficients and associated data items.

- **Develop Liability Specifications** - There are a number of variables relating to the Fund's prospective benefit, employment and funding policies that must be clearly understood at the outset as an important part of the process. These assumptions can significantly affect the focus and direction the study takes. Some of the key variables to focus upon are: size of work force over the coming years; age, sex and compensation profile of expected future hires; expected rates of turnover, salary increase, early retirement and mortality of the active membership; and the Fund's post retirement demographic experience.

- **Determine Variables of Importance to STRS** - In order to gain a full understanding of the key decision variables of importance to the Plan, we will determine with STRS which issues are likely to drive the asset allocation of the Fund. Some of the objectives that our clients have determined for an ALM study include: minimizing contribution fluctuations; maximizing future funded status over a certain time-horizon at a certain level of risk; interest in additional asset classes; concern over cash flow/liquidity needs in declining membership or declining contribution environment; future expectations for an excess earnings COLA; improving the benefit formula through asset allocation, etc. The goal of the Study is to maximize the probability of meeting these often complex and competing objectives.

- **Develop Efficient Portfolios Based Upon Asset Assumptions** - Efficient portfolios should be selected with the Fund's liabilities and the chosen risk and return variables in mind. To start this process we typically create a frontier of alternative portfolios that represent efficient combinations of assets in a traditional risk/return sense. Subsequent analysis helps us

understand these portfolios from the point of view of the plan's liabilities and the study's objectives.

- **Perform Asset/Liability Simulation** - Utilizing a sophisticated model developed over many years by Watson Wyatt, we can simulate the future distribution of results for the plan for various asset mixes. These results encompass the Fund's demographic experience, benefit design and funding policy. The focus of the results generated therefore keys in with the items of interest to STRS.

- **Integration and Risk Tolerance** - Using these initial results as the primary building blocks, we will meet with STRS to discuss our initial conclusions. Risk tolerance plays an important part in any decision making process, and therefore needs to be well addressed in our discussions. We tailor our results to quantify the uncertainty of achieving certain pre-defined objectives, and correspondingly show the chance of achieving unacceptable outcomes. In this way our conclusions regarding risk tolerance will be discussed in the context of STRS's sensitivities. This combination of a meaningful concept of risk and STRS's particular perspective shapes the overall focus of the study towards one that is centered on the needs of the plan going forward.

- **Presentation of Results** - The results of the integration of the asset and liability forecasts are presented informally to the staff or a Committee for discussion prior to the development of a final presentation. At this stage, the detailed output, along with summary information and graphic material, is reviewed as a final edit and to ensure that all aspects of the communication process have been addressed adequately.

Q. Describe your process for developing, recommending and maintaining a client's investment policy, strategy and asset n-dx.

Further to the development of a plan's strategic asset allocation position as described above, the next step is to seek an integrated and consistent means of implementing the strategy and investment policy.

Watson Wyatt uses both quantitative and qualitative means of assessing the relative merits of different investment structures that achieve the varied aims and objectives of the Plan. Notable among these are:

- operational simplicity,
- cost efficiency,
- style and risk diversification; and
- investment return maximization.

In the normal course of events, reviews of individual elements of the investment structure would be undertaken on a rotational basis, but naturally, as and when situations dictate, any and all facets of the investment structure would be managed in the appropriate manner.

Q. Describe how benchmarks are researched and recommended. Describe how performance is compared to similar portfolios.

When we are determining the appropriate benchmark for a particular investment manager, we use a number of tools. For example, we will use both holdings based and return based style analysis as a means of identifying the appropriate benchmark. Understanding the construction and rebalancing of an index is also an important step in the process of establishing a benchmark.

We also compare a manager's performance vis-à-vis a universe of similarly managed portfolios. Correlation measures and style analysis software is used to determine the appropriate style universe for a manager.

REPORTING

Q. What is included in the standard reporting package you supply to your clients?

We have structured our reports to be a concise and effective resource for our clients. The standard reporting package we provide to clients includes a customized quarterly report that includes the following features:

- Capital markets review
- Executive summary
- Financial reconciliation
- Total fund review
- Asset class review
- Individual manager review
- Review of the investing environment for the current quarter

Our performance evaluation reports provide data analysis in a consolidated, easy to read, uniform format that facilitates the enforcement of the investment policy statement. In addition to customizing our reports for each client individually, there are a number of attributes that distinguish our service from our competitors. Following is a list of those attributes.

- **Executive summary** - Clients should be able to look quickly on one or two pages to assess how their fund and each portfolio is performing. While graphs are very useful in displaying performance comparisons, many of our clients value the commentary that is provided in the executive summary.

- **Capital market review** - A thorough review of the economy and the capital markets will provide a good backdrop when reviewing performance. We feature a summary version that includes mostly graphs along with a full written analysis of the market conditions. As part of *our Investing Environment*, we feature 2-3 segments each quarter that focus on current trends that we see in the market place. We have included our current version of this document in the Appendix.

- **Relevant interpretation of performance results** - This is where the real value is added to the performance monitoring process. Our reports go beyond just reporting what the performance was and try to identify why a manager did well or poorly. We will examine and assess the impact of these actions on the overall return in commentary throughout the report.

- **Timely and accurate reporting** - We routinely reconcile our performance returns with the investment managers.

RESEARCH, ANALYSIS, AND POLICY ISSUES

Q. Describe your research and analysis capabilities.

WWIC has built an integrated network of consultants in the U.S. and around the world to focus our research efforts. The locus of this research effort is the Watson Wyatt "ASK" (Area of Specialized Knowledge) teams. Each ASK team is led by a senior consultant and focuses on specific asset classes. In addition to the U.S. ASK team structure, we also have global teams with participating consultants from North America, Europe and Asia. The teams conduct research both in our offices and through on-site visits. The ASK team structure allows us to effectively monitor asset classes domestically and globally. The U.S. ASK team structure is organized around the following asset class/investment categories:

- U.S. Equity
- Global/Int'l Equity
- Fixed Income/Currency
- Alternatives
- Mutual Funds/DC Vendors
- Topical Research
- Master Trust/Custody

The table below indicates our estimates as to the number of professionals with a meaningful depth in the specialization.

Area of Specialization	**# of Professionals**
Asset Allocation	18
Domestic Equity - large & small cap	18
Domestic Fixed Income	18
International Equity - large & small cap	18
International/Global Fixed Income	12
Emerging Markets	12
Currency	4
Derivatives - domestic/international	6
Alternative Investments	8
Hedge Funds	5
Real Estate	6
Tactical Asset Allocation	12
Defined Contribution Plans	9

CLIENT CONFLICT/REFERENCES

Q. Please list three clients as references for whom you have provided general pension consulting services. For each reference listed include client name, address, telephone number, and name of contact person.

Client	Contact Name	Address	Phone Number
San Mateo Co. Employees' Retirement Association	Mr. Sid McCausland Chief Executive Officer	702 Marshall, Ste. 280 Redwood City, CA 94063	(650) 363-4930
Los Angeles Fire & Police	Mr. Tom Lopez Chief Investment Officer	360 E. Second St., Ste. 600 Los Angeles, CA 90012	(213) 485-4496
Alameda Co. Employees' Retirement Association	Mr. Chuck Conrad Administrator	475 14th St., Ste. 1000 Oakland, CA 94612	(510) 682-3001

BIOGRAPHIES

CAROLYN SMITH
Director

Carolyn is a Director and manages the Western Region Investment Consulting practice of Watson Wyatt Investment Consulting. Carolyn has been providing investment consulting services to clients for over 12 years and has over 15 years of investment experience. She provides client services in the areas of asset/liability modeling, asset allocation, investment guidelines drafting, investment manager selection, and performance evaluation consulting.

Before joining Watson Wyatt Investment Consulting in early 1994, Carolyn spent seven years with Callan Associates as a Vice President and Senior Consultant in their San Francisco office. Before joining the consulting staff in 1987, she was an investment analyst with Callan's corporate staff involved with performance measurement. Her previous investment experience dates back to 1993, when she held various accounting and investment positions at Deseret Mutual Benefit Association.

Carolyn received a bachelor's degree in finance from the University of Utah.

ELLEN CLARK
Senior Consultant

Ellen Clark has been a senior consultant with Watson Wyatt Investment Consulting since 1996. Ellen has over 12 years of investment consulting experience and 18 years of investment experience. Ellen assists clients with all aspects of strategic planning services (including investment policy, asset allocation, asset/liability modeling, and investment manager structure work) in addition to investment manager research and selection, performance evaluation and special projects.

Before joining Watson Wyatt Investment Consulting, Ellen spent six years with INVESCO as a Regional Vice President responsible for the marketing and client servicing aspect of INVESCO's denied contribution services.

Prior to INVESCO, Ellen spent 9 years with Kidder Peabody where she was responsible for developing and managing Kidder's asset management consulting practice in the Western region.

Ellen received her MBA from Seattle University and has a BA degree from Whitman College.

MICHAEL CARTER
Senior Actuary

Michael Carter is a senior actuary in the Dallas office with over 22 years of experience. He is the lead actuary for governmental plans in Watson Wyatt and the Southwest, and he is one of the leading governmental plan actuaries in the country. Michael provides general consulting services in all employee benefit areas including defined benefit plans, defined contribution plans, group insurance programs, cafeteria plans (Section 125 programs), 403(b) annuity arrangements and Section 457 plans.

Prior to joining Watson Wyatt, Michael worked nine years with Southland Life Insurance Company. He also served on the Evangelical Lutheran Church Board of Pensions as a member of the Board of Trustees, a member of the Executive Committee, and chair of the Benefits Committee.

Michael is a Fellow in the Society of Actuaries (FSA), a member of the American Academy of Actuaries (MAAA), a Fellow of the Conference of Consulting Actuaries, and an Enrolled Actuary under ERJSA (EA). He also participates as a member in both the Actuaries Club of the Southwest and the Southwest Benefits Association. Michael authored a chapter in the textbook, *Life Insurance Accounting*, and he frequently speaks to groups about complex actuarial and retirement issues. Michael holds a B.A. in economics from Rice University.

Michael's major governmental clients are: the Teacher Retirement System of Texas, the Arizona State Retirement System, California State Teachers' Retirement System, the New Mexico Educational Retirement Board, the Employees' Retirement System of Rhode Island, the Oklahoma Teachers' Retirement System, and the Utah Retirement System.

Attachment 1 – Exhibit B
Investment Committee – Item 4
April 6, 1999

CALIFORNIA TEACHERS' RETIREMENT SYSTEM
GENERAL PENSION CONSULTANT(S)

PROPOSAL QUESTIONNAIRE

A. FIRM NAME:	**Pension Consulting Alliance, Inc.**
B. MAIN ADDRESS:	**15760 Ventura Blvd., #700** **Encino, CA 91436**
C. CONTACT:	**Name: Allan Emkin** **Title: Managing Director**

ORGANIZATIONAL BACKGROUND

Q. Please give a brief history of your firm, including the year the firm was founded. Specify the number of years your organization has been providing pension consulting services to tax exempt organizations.

PCA was founded and began providing investment consulting services to US tax-exempt clients in 1988. Mr. Emkin and Ms. Gerardo Lietz founded PCA to meet the changing needs of the most sophisticated plan sponsors. Consulting services include portfolio strategy, alternative investments, international asset consulting, and real estate consulting.

Our firm was founded on the principle that consulting is a service, not a commodity. We design our services to meet the client's specific needs in a cost-effective manner. PCA has structured itself as a firm of consultants having specific expertise supported by several specialist-consulting firms representing many unique disciplines.

Q. Describe the ownership structure of your firm. Identify affiliated or subsidiary organization(s). Do investment professionals participate in equity ownership? If equity ownership is not available, is there a specific arrangement for sharing in the profits earned by the enterprise? Please describe.

PCA is a Subchapter S Corporation owned 49% by Mr. Emkin and 51% by Ms. Gerardo Lietz.

PCA's compensation program has been constructed to encourage retention of key personnel. PCA has adopted a profit sharing plan by which principals of the firm are entitled to share in net profits generated by themselves and the firm. To encourage retention, consultants' and analysts'

compensation includes a base salary and a bonus. As a result of this framework, compensation is performance driven.

Q. List the location of your headquarters and branch offices. State the primary function of each office.

Headquarters:

15760 Ventura Blvd., Suite 700
Encino, CA 91436
Phone: (818) 995-8713
Fax: (818) 995-8715

Primary Function: General Consulting, Operations and Administration

Other Offices:

514 NW 11th Avenue, Suite 203
Portland, OR 97209
Phone: (503) 226-1050
Fax: (503) 226-7702

Primary Function: General Consulting, Real Estate Consulting, Analytics

1515 Lochridge
Bloomfield Hills, MI 48302
Phone: (248) 366-8965
Fax: (248) 366-8967

Primary Function: Real Estate Consulting

4028 Mary Louise Drive
Panama City, FL 32405
Phone: (580) 271-3535
Fax: (580) 271-3214

Primary Function: Real Estate Consulting

927 Carol Lane
Lafayette, CA 94549
Phone: (925) 284-5614
Fax: (925) 284-2993

Primary Function: Real Estate Consulting

Professional Staff

Q. Provide the names of professionals who will be assigned to the STRS account including the primary consultant and principal assistant [identify the primary consultant with an asterisk(*)]. Include the length of experience in pension consulting/advisory services.

PCA uses a team-oriented approach to service its clients. Allen Emkin, STRS existing primary consultant over the past eight years, is the proposed primary consultant for the STRS relationship and would be the primary contact. Neil Rue is the proposed principal assistant. Mr. Emkin and Mr. Rue would be supported primarily by Tad Fergusson.

KEY PROFESSIONALS					
			Investment Experience		
Name	***Title***	***STRS Role***	***With Firm***	***+ Prior***	***= Years***
Allan Emkin*	Managing Director	Primary Consultant	10	8	18
Neil Rue, CFA	Principal	Principal Assistant	8	6	14
Tad Fergusson	Analyst	Additional Assistant	2	1	3
Nori Gerardo Lietz	Managing Director		10	7	17
Claudia Faust	Principal		3	10	13
Terry Sander	Principal		1	14	15
James Sullivan, CFA	Vice President		3	2	5
Christy Fields	Vice President		<1	4	5

ASSET ALLOCATION

Q. Please describe your process for determining the appropriate asset allocation for a public pension fund. At a minimum, include the criteria for which you base your assumptions.

PCA and its allies offer its clients two approaches to asset/liability analysis and asset allocation policy setting. The first, more standard, approach utilizes and asset-based framework that many sponsors continue to utilize. The second approach is significantly more sophisticated in that it is scenario-based asset/liability modeling where both asset and liabilities can be modeled for different scenarios. Such modeling, while available, is highly complex and may yield results that are not significantly different than the asset-only approach.

Standard Asset Allocation Approach

For typical asset allocation projects (which do not require modeling of liabilities), PCA uses the asset allocation model developed by ITI. This model is rapidly becoming the cost-effective

standard in the investment industry. In addition, PCA & ITI have worked jointly on specific client asset allocation projects. The ITI model has a multitude of unique variables and components, which can be utilized to construct a study tailored to the specific needs of the client. However, inputs into the ITI model are proprietary and are developed internally by PCA.

PCA, in conjunction with ITI can perform asset allocation studies in a multi-scenario framework if needed. The unique components of the ITI model are noted below:

- Risk viewed from more than one perspective.
- Specifies how much investment risk is appropriate.
- Accurately estimates the amount of investment risk associated with each portfolio.
- Assists in the development of investment objectives that reflect the specific financial situation the plan sponsor.
- Allows the user to incorporate liabilities into the analysis by specifying a required hurdle rate of return.
- Fourteen asset classes can be identified along the efficient frontier.
- Risk measured in two different ways - Downside Risk or Mean-variance Risk.
- Ability to project holding periods for investments from 1 to 20 year periods.

This model permits the user to select between two different ways of measuring risk: downside risk and mean-variance risk. Mean-variance risk (MVR) has traditionally been used as the measure of risk for portfolio optimizers. The chief failing of MVR is that it captures only the risk associated with achieving the mean, not the risk of falling below some minimum or target return, which could prove to be of material concern to STRS. This has the undesirable effect of penalizing portfolios as being risky as their uncertainty extends in the direction of greater returns. In other words, if investments produce significant upside volatility (viewed as "good"), mean-variance optimizers will assign them higher risk (viewed as "bad").

"Downside Risk" (DR) measures the uncertainty of achieving a return that falls below an investor's minimum acceptable rate of return (which is not necessarily the same as the expected rate of return). For example, the minimum rate or return could be the mean return, or zero (protecting principal), or an actuarial return requirement. The downside risk process then determines the optimal portfolio mix by calculating variance as the extent and frequency of a portfolio's returns falling below the specific acceptable rate of return.

Since DR takes into account both the frequency and the magnitude of falling short of a minimum acceptable return, many consider it a more appropriate measure of the financial consequences associated with an investment program: i.e., the risk of not achieving some specified fiscal target. This gives DR optimizers a further advantage: they provide an explicit link between the plan's asset and liabilities. This results in asset allocation policies that better meet an investment portfolio's investment objectives.

PCA applied this approach on behalf of STRS in 1997. Through this exercise, PCA performed three important functions. First, PCA reviewed with the Board these issues and issues associated with this approach to asset allocation. Second, this framework allowed the Board to

systematically arrive at a preferred asset allocation policy. And third, PCA executed a variety of sensitivity analyses to stress test this allocation as adopted policy. These analyses included:

1. Measuring the impact of including/expanding global bonds;
2. Determining how the structure of the real estate portfolio impacts the return/risk profile of the total portfolio;
3. Determining whether different investment horizons change policy.

These studies led to further assurance that the Board's adopted asset allocation policy best reflected the risk tolerance of the overall plan.

Asset/Liability-based Asset Allocation Projects

For clients seeking more integrated solutions to asset allocation questions, PCA has aligned with Milliman & Robertson ("M&R"), a leading actuarial firm. In this context, PCA works closely with M&R to develop all investment-based inputs, oversee the modeling process, and provide assistance in developing the asset/liability framework.

M&R executes proprietary asset/liability and capital market simulation models to perform asset allocation by scenario optimization techniques. Using both Monte Carlo techniques and historical data, M&R develops several hundred plausible scenarios for inflation, interest rates, and investment returns over the applicable time horizon.

M&R also tracks the pension plan assets and liabilities each year over the time horizon under each of the scenarios and for hundreds of possible asset mixes. M&R summarizes the results by focusing on the most important measures of risk to the plan. These are likely to be future levels of contributions and the future funded status of the plan. M&R's approach focuses on both short-term results and long-term results.

Alternative asset mixes can be evaluated and compared in terms of their impact on a plan's expected contributions and downside risk to those contributions, both over the short-term and over the long-term, instead of single-period expected portfolio returns and standard deviations.

M&R has broad experience in executing these types of analyses for various plan types. (Please refer to Exhibit I for a sample asset/liability study.)

Derivation of Assumptions

PCA accesses a database of 140 indices to develop asset return, risk and return expectations. To develop long-term asset class return projections, PCA analyzes historical relationships among asset classes. Different scenarios are reviewed to determine the stability of real return premiums among asset classes. Common sense and practical knowledge, as well as macro views about the future investment environment, will have some bearing on PCA's final return premium assumptions.

Historical risk and correlation patterns are also analyzed to develop expected risk and correlation inputs. While most practitioners view these two variables as stable, PCA's research shows that

correlations among asset classes can shift significantly over time. Through this analysis, PCA has been able to spot trends in long-term correlation patterns that may have an indirect influence on portfolio optimization through the modeling process

For specific asset classes, such as real estate or alternative investments, PCA performs fundamental research to derive return, risk, and correlation assumptions. PCA's expertise and original research in the real estate and private equity asset classes play an important role in developing assumptions for these asset classes.

Q. Describe your process for developing, recommending and maintaining a client's investment policy, strategy and asset mix.

The development of an investment policy and recommendations regarding investment strategy are unique to each client. As PCA is aware, STRS has established methodologies and planning documents that address investment policy for the entire portfolio and for individual asset classes and instruments. This existing framework is the starting point for any review of and/or establishing new objectives and strategies.

Our approach to the development of polices, objectives and strategies is an interactive one which involves input from the Staff and Board. We begin the process with discussions with the Staff to ascertain their views on overall policies and strategies. We review the relevant planning documents to determine the adopted framework that would affect future policy decisions.

After the preliminary discussions and review of the documents, we would meet with the Staff and make an informal presentation of the issues PCA believes should be discussed. When these issues are agreed upon with the Staff, we would present the Board with a recommendation along with a discussion of the pros and cons of the recommendation.

PCA has applied this approach on an ongoing basis with many of our present clients, including STRS, CalPERS, OPERF, the counties of Santa Barbara and Fresno, the Colorado Fire and Police Pension Association and the Houston Firefighters' Relief & Retirement Fund.

The key to the development of the above-referenced policies is the definition and refinement of risk and risk tolerance. Risk is not a single facet but a multifaceted construct unique to each client and asset class. PCA's main role is to help define and manage the client's perception of risk.

In order to assess the broad risk tolerance for specific clients, PCA reviews several factors. (Depending on the sophistication of the sponsor, PCA may enlist its consulting ally, Milliman & Robertson, to review various asset/liability based measures of risk tolerance.) These factors are:

Funded status of plan If the plan is well-funded, then the institutional client may be more inclined to protect its surplus, rather than risk its elimination through poor investment results. This view might indicate a lower-than-average risk tolerance.

Actuarial rate of return Relatively high required actuarial rates of return could compel a client to pursue more conservative strategies. The required actuarial rate also embodies a client's implicit long-term inflation expectations. This expectation can influence, to some extent, a client's strategy for maintaining the fund's purchasing power.

Existing asset allocation policy and actual allocation levels Asset allocation policy reflects the long-term investment intentions of a client's staff and board. Therefore, these intentions reflect a fund's stance toward total plan risk. Actual allocations, however, will reveal how closely a fund adheres to intentions and objectives. For example, a policy might reflect low risk tolerances, but the client's actual allocation might tend toward a more conservative position.

Other risk criteria PCA has access to a wealth of other data to analyze the relative position of a client's policies versus other benchmarks. Such benchmarks include the world wealth portfolio, other peer funds, etc. These relative measures can provide additional insight into a client's view about investment risk.

PCA's asset allocation process can incorporate these various measures of risk to determine optimal portfolios. However, even highly precise measures of risk may prove less intuitive for decision-making purposes. Through the dialogue process, PCA would work with a client to determine how best to measure and assess the risk tolerance of the plan.

Q. Describe how benchmarks are researched and recommended. Describe how performance is compared to similar portfolios.

Benchmarks are chosen as comparative performance measures for specific asset classes. In most cases, readily available benchmarks are used. In other situations a benchmark is constructed for a unique asset classification. In all cases, precise benchmark modularization helps control and add precision to performance attribution. At the manager level, style specific benchmarks best explain managers' results. The investment guidelines of an individual manager along with a benchmark's unique construction algorithms will be considered to ensure a proper match for performance comparison.

PCA will begin the process of developing or choosing benchmarks by examining individual components of the portfolio and then aggregating this data to provide a picture of the composite, asset class and fund performance. This may be done in conjunction with one of several of PCA's allies, depending on the asset class under review. Following this step, PCA typically reviews the spectrum of benchmark options across a variety of attributes. These attributes might range from benchmark liquidity, behavior, construction rules and usability versus other benchmarks. (Please see Exhibit K for two examples of benchmark studies.)

PCA believes that benchmark portfolios can be a valuable element of a successful investment program. An important factor in benchmark construction is to ensure that all the benchmarks utilized are designed to modularize performance. Through this approach, performance attribution is more clearly defined and identifying the causes of under- or over performance is more straightforward.

At the investment manager level, PCA strives to ensure that a benchmark portfolio represents a manager's area of investment expertise as precisely as is practical. Benchmark portfolios play several roles in pension fund management. Most importantly they permit a more accurate evaluation of a managees skill and they allow the plan sponsor to make more productive manager structure decisions. Additionally, plan sponsors use benchmark portfolios in manager searches, performance fee arrangements, performance attribution investment risk analysis and control, and general client communications.

lnterSec, our international consulting ally, utilizes their extensive databases to track performance against index benchmarks and peer universes. Through disaggregation techniques, incremental results are attributed to country selection, timing, weighting and security selection.

For illiquid asset classes such as real estate and venture capital, PCA has its own capabilities as well as access to independent data sources. Also, in conjunction with E&Y Kenneth Leventhal PCA has developed its own industry benchmarks that could be used for comparative purposes if STRS wanted alternative universe comparisons.

REPORTING

Q. What is included in the standard reporting package you supply to your clients?

PCA's performance reports, which are produced through its affiliate Ziegler Company, can be highly customized across any number of asset classes and sub-aggregate portfolios. As a result, the performance reports can cover all asset classes. PCA prepares an executive summary providing a detailed analysis of overall fund and manager performance. Within the performance reports, Ziegler Company can incorporate any source of manager universes. With existing clients, Ziegler has used universe data from several different sources, including Frank Russell, TUCS, and InterSec. As a result, a PCA client may have access to different universe vendors, depending on the client's views about specific universes.

To provide rapid assessment of performance results, the Ziegler reports provide performance attribution statistics at both the total fund and asset levels through its performance reporting system. These statistics divide performance contribution into two main areas: contribution from sector allocation and contribution from active management. Evaluating these results in an executive summary format gives the Board an early indication of factors that are impacting overall portfolio performance.

Illiquid Assets

PCA also provides relatively sophisticated performance reports in other, non-traditional asset classes. Currently PCA provides real estate evaluation that uses traditional return measurement evaluation tools, but are also customized to assess cash flow oriented results that are more relevant in these assets classes. In the private equity area, PCA is providing performance reporting to one client with approximately $200 million in private market investments.

RESEARCH, ANALYSIS, AND POLICY ISSUES

Q. Describe your research and analysis capabilities.

PCA does not have a dedicated internal research department. Each of the consultants at the firm is engaged in research projects on an ongoing basis, either independently, or at the direction of a client. PCA performs original research in areas where we have particular expertise and experience as well as across a collective of client interests. Examples of recent research projects include:

- international equities
- fixed income
- real estate
- private placements
- currency
- trading costs
- legislative issues

Further discussion of these topics is included in Exhibit P.

In addition, PCA's consulting allies publish research continually in their areas of expertise. This research, combined with PCA's efforts, results in client access to a wide spectrum of sources providing leading-edge research. All research, through PCA, would be available to STRS.

CLIENT CONFLICT/REFERENCES

Q. Please list three clients as references for whom you have provided general pension consulting services. For each reference listed include client name, address, telephone number, and name of contact person

Client	Address	Telephone	Contact
CalPERS	400 P Street, Suite 3492 Sacramento, CA 95814	(916) 326-3400	Sheryl Pressler
Oregon PERS	350 Winter St., NE Labor & Industry Bldg # 100 Salem, OR 97310	(503) 373-7089	Dan Smith
Colorado Fire and Police Pension Association	5290 DTC Parkway, Suite 100 Englewood, CO 80111	(303) 770-3772	Ruth Sieler

BIOGRAPHIES

ALLAN EMKIN
Managing Director

Mr. Emkin founded PCA in 1988 and is currently a Managing Director. Mr. Emkin has primary responsibility for several client relationships including CalSTRS, CalPERS, Sacramento County, Santa Barbara County and Fresno County. Mr. Emkin has eighteen years of general consulting experience, with an emphasis on public administration and investment policy, non-dollar investments and real estate investments. Prior to forming PCA, Mr. Emkin was a Vice President at Wilshire Associates. At Wilshire Associates, Mr. Emkin was responsible for public plan relationships and was the director of international research.

Mr. Emkin maintains several state consulting relationships outside of California including the Minnesota State Investment Board, the Virginia Retirement System, and the Oregon Public Employees' Retirement Fund. Mr. Emkin also has worked with several associations and municipalities including three California counties, Colorado Fire & Police Pension Association, Houston Firemen's Relief and Retirement Fund as well as specific project assignments for several other California funds. In addition, before becoming a consultant, Mr. Emkin worked in the California's Governor's office, and prior to that he was a registered lobbyist for ten years.

Mr. Emkin is a frequent speaker at various forums and educational seminars, such as the Institute for Fiduciary Education (IFF), Pensions in the Nineties (now known as Pensions 2000), Institutional Investor, and Pension and Investment Age conferences.

NEIL RUE
CFA, Principal

Mr. Rue, based in Portland-, has fourteen years experience as an investment consultant for various institutions. Mr. Rue has primary responsibility for client relationships with Sacramento County, Fresno County, PacifiCorp, Houston Fireman and Houston Municipal. Prior to joining PCA, Mr. Rue was a research consultant to the Frank Russell Company, where he researched and created two proprietary transaction cost measurement systems. Prior to that, he worked in the Russell Analytical Services Group which is a developer of database, asset allocation and performance attribution products. There he was manager of software database systems.

Mr. Rue has extensive experience in quantitative analysis and portfolio structuring. Also, Mr. Rue has devoted significant time at PCA researching unique investment topics. White papers produced by Mr. Rue cover emerging markets, international real estate, and soft dollars, among others. Mr. Rue, a Chartered Financial Analyst, received his Bachelor's and MBA degrees from the University of Washington.

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
GENERAL PENSION CONSULTANT(S)

PROPOSAL QUESTIONNAIRE

A. FIRM NAME:	**BARRA RogersCasey**
B. MAIN ADDRESS:	**One Parklands Drive** **Darien, CT 06830**
C. CONTACT:	**Name: David J. Katz** **Title: Managing Director**

ORGANIZATIONAL BACKGROUND

Q. Please give a brief history of your firm, including the year the firm was founded. Specify the number of years your organization has been providing pension consulting services to tax exempt organizations.

In 1976 Stephen Rogers and John F. Casey formed one of the nation's first investment consulting firms specializing in providing consulting services to the institutional investment community. In July 1996, Rogers, Casey & Associates, Inc. merged with BARRA, Inc. More than twenty years ago, Barr Rosenberg and Andrew Rudd envisioned new techniques for assisting institutional money managers to characterize the risk and to optimize the performance of their equity portfolios. From the beginnings as a modeler of U.S. equity risk, BARRA has grown into a full-service provider of analytical products, investment data, trading services, consulting, and asset management to financial professionals worldwide.

The management and monitoring of risk has been the focal point of our company's history for more than 20 years. Our consulting professionals create, review, and monitor institutional investment structures- evaluate, select, and monitor investment managers; provide performance measurement reports, asset allocation analysis, attribution analysis, and asset/liability studies - consulting services all devoted to controlling risk and preserving our client's investment program. Our analytical models and software also provide risk measurement processes to enhance our understanding of all forms of risk in an investment program.

The BARRA organization provides a wide range of services enabling our clients worldwide to make superior investment and trading decisions. We approach investment problems from all angles, beginning with their theoretical underpinnings, and continuing through practical implementation of solutions.

Q. Describe the ownership structure of your firm. Identify affiliated or subsidiary organizations(s). Do investment professionals participate in equity ownership? If equity ownership is not available, is there a specific arrangement for sharing in the profits earned by the enterprise? Please describe.

BARRA RogersCasey is a wholly-owned subsidiary of BARRA, Inc. BARRA is a publicly traded firm on the NASDAQ exchange under the symbol BARZ. Long-term incentives, in the form of BARRA stock options, are provided to a select group of professionals each year who demonstrate a pattern of performance and commitment that significantly impacts the organization over time. Our employees are also eligible for stock purchase plan in the parent company. There is no formal profit sharing plan.

Following is an overview of the BARRA organization:

BARRA Analytics and Strategic Consulting

- **Equity Management:** Portfolio Risk Analysis; Optimization; Trading Cost Analysis; Performance Attribution; Valuation.

- **Fixed Income Management:** Portfolio Risk Analysis; Performance Attribution; Scenario Analysis; Optimization; Valuation.

- **Multi-Asset Class Management:** Multi-Currency Asset Allocation; Risk Analysis; Optimization; Returns Forecasting.

- **Equity Trading:** Portfolio Bid Analysis; Inventory Risk Control; Hedging; Valuation

- **Investment Data Products**

  - **InvestWorks:** Money manager performance, style analysis, peer comparison and related data.
  - **The Estimate Directory (TED):** Global database of analysts' earnings estimates.
  - **Directus:** Company informed agent trading database
  - **Bond Express:** On-line directory of fixed income security offerings.

- **BARRA Strategic Consulting**
  BARRA's Strategic Consulting advises investment management firms on organizational issues, products/services, and client service.

BARRA RogersCasey

BARRA RogersCasey, a wholly owned subsidiary, serves the institutional investor market through the following business units:

- **Investment Consulting:** Advises institutional investors - public funds, corporations, foundations, endowments, and other large pools of capital - on asset allocation,

investment policy, and manager structure and selection, and provides performance reporting.

Symphony Asset Management, Inc.
Symphony Asset Management, Inc. is a BARRA subsidiary headquartered in San Francisco. It currently manages over $2 billion in a variety of vehicles.

POSIT (Portfolio System for Institutional Trading)
POSIT, a joint venture with Investment Technology Group, Inc., is BARRA's main offering in electronic brokerage. POSIT is not a brokerage operation in itself, but it is an intraday equity crossing network used by brokerage firms.

Q. List the location of your headquarters and branch offices. State the primary function of each office.

Headquartered in Darien, CT, where we will service your account, BARRA RogersCasey Investment Consulting also has a West Coast presence in Berkeley, CA. Both areas provide investment services to institutional investors.

Headquarters
BARRA RogersCasey
One Parklands Drive
Darien, CT 06820
Telephone:203-656-5900

California Office
BARRA, Inc.
2100 Milvia Street
Berkeley, CA 94704-1113
Telephone: 510-548-5442

Professional Staff

Q. ***Provide the names of professionals who will be assigned to the STRS account including the primary consultant and principal assistant [identify the primary consultant with an asterisk(*)]. Include the length of experience in pension consulting/advisory services***.

KEY PROFESSIONALS				
		Investment Experience		
Name	**Title**	**With Firm**	**+ Prior**	**= Years**
Joseph S. Nankof*	Managing Director	4	7	11
Steve Algert	Director	9*	7	16
Sean Cuminskey	Director	2	7	9
Raudline Etienne	Associate Director	3	5	8
Lawrence Vasquez	Associate	2	2	4

ASSET ALLOCATION

Q. Please describe your process for determining the appropriate asset allocation for a public pension fund. At a minimum, include the criteria for which you base your assumptions.

Asset allocation is the primary determinant of a fund's performance. BARRA RogersCasey has the experience, tools, and techniques to determine an optimal asset allocation. We assist the client in identifying the appropriate asset allocation for their program based on their return objectives, risk tolerance, and organizational culture using our proprietary asset allocation model. Our senior research resources are devoted to developing our capital market return and risk

assumptions as well as investigating new asset classes that may be appropriate for clients to consider.

To determine your optimal investment structure, we initially review your existing asset allocation policy. We then evaluate the performance of the portfolios under a variety of economic scenarios based on our client's investment return objectives, risk tolerance, current targets and ranges, and other selected objectives. We look at portfolio returns in deterministic scenarios (e.g., where year-by-year asset class relationships are specified and the resultant portfolio performance is determined) or stochastic scenarios (e.g., the model generates 500 capital market scenarios that are consistent with specific asset class assumptions). We often use periods of history to demonstrate varying market environments (e.g., dividing the last 25 years of capital market history into five 5-year periods and analyzing what would occur with various portfolios if any of the scenarios were to repeat). Finally, we make strategic asset allocation recommendations that include recommended allocations to each class. Given the asset allocation recommendations, we then evaluate alternative strategies for structuring the allocation to each class (e.g., active/passive exposure, duration, etc.) Our final recommendation includes strategic asset allocation recommendations and specific investment structure recommendations for each asset.

Asset Class Assumptions

When performing an asset allocation study certain assumptions are made for the various asset classes. These asset class assumptions (i.e., return, volatility, and correlation with other asset classes) are generally derived using expectations for the broad market within each asset class. For consistency and sound investment structure, it is important that the broad market used in developing the asset allocation recommendations be the subsequent program benchmark for a given asset class.

Our capital markets group analyzes, on a regular basis, the changes in macro and micro economic and financial variables and maintains our capital market assumptions (i.e., risk, return, and correlations) for all models. Because the assumptions are very long term in nature, they change very slowly, but are examined every six months to see if the group wishes to make incremental changes. We typically do not make significant modifications to the asset allocation unless there is a secular change in interest rates or inflation.

This process normally yields targets for each asset class. These can be converted to ranges based on asset class volatility. Our most current research on rebalance involves setting a "total plan maximum acceptable return deviation" relative to the target allocation and rebalance to that range. This appears to minimize transaction costs.

Q. Describe your process for developing, recommending and maintaining a client's investment policy, strategy and asset mix.

An investment program focuses on sound objectives, clearly defined roles and responsibilities, and prudent policies and guidelines. The investment policy statement is the basic document that sets the foundation of the program. We review this document with staff and board or committee

to clarify objectives and gain consensus for the policy elements. The main elements in the Investment Policy include:

- Broad goals and objectives
- Accountability of participants
- Asset allocation and risk guidelines
- Design of each asset class
- Manager guidelines, restrictions, and expectations
- Manager benchmarks in each asset class, asset class benchmarks, and a total fund benchmark.

Central to the development of an investment policy is a rigorous understanding of all measures of risk within your organization. Our risk management process includes:

- Assigning authority and accountability for the risk management process
- Developing implementation and violation response procedures
- Educating and training the appropriate people
- Determining systems and procedures for monitoring policies
- Creating a mechanism for policy review and revision.

In analyzing an investment strategy for your plan, we begin by reviewing the fund's overall objectives and benchmarks. We carefully analyze each asset class (e.g., U.S. equity, international equity, and fixed income) to determine the efficient allocation of risk across the entire fund as well as within individual asset classes. We provide a recommendation for design within each segment of the fund, including the number and types of managers.

We focus on the structure within each asset class, discussing issues such as active versus passive, large cap versus small cap, growth versus value and determining the appropriate type and number of managers. The efficient allocation of active risk across the entire plan is fundamental in our evaluation process.

Q. Describe how benchmarks are researched and recommended. Describe how performance is compared to similar portfolios.

Benchmarks are a critical tool for the evaluation of an investment program's success. They are the expression of the investor's return objectives and risk tolerance. We utilize leading edge technology in benchmarking and track over 1,500 indices covering all asset classes. Special indices like hybrids, peer groups, style indices, and normal portfolios are used widely in our reporting packages to more accurately evaluate the performance of investment strategies - from simple performance comparison to detailed performance attribution with risk models. We carefully examine the recommended benchmarks at the total fund, asset class, and investment manager level to assure that the benchmarks are consistent with the client's expectations.

REPORTING

Q. What is included in the standard reporting package you supply to your clients?

We produce monthly "flash reports" showing a financial reconciliation, asset allocation, and all returns for managers, fund segments. Our typical quarterly performance report consists of two reports: the first contains an analysis of all the components of total fund performance, and the second contains the portfolio profiles.

Quarterly reports include performance at the total fund, asset class, and individual manager level. This includes detailed security-level profiles including for equity managers: 1) fundamental equity characteristics; 2) risk characteristics of portfolio; 3) portfolio industry allocation; and, 4) a risk characteristic distribution of the portfolio versus index. For bond managers, this includes: 1) duration; 2) credit quality; and 3) industry/sector/country allocation, all compared to appropriate indices. We also use a number of tools to assist in our performance analysis. Aegis, Global Style Analyzer, Precision, InvestWorks, and QSUM, BARRA RogersCasey's proprietary early warning model, are a few examples.

BRC has the capabilities of customizing reports at any time to meet your needs. We are able to provide full analysis of performance on the portfolio level as well as on the composite level. The composite generation methodology is fully flexible, allowing the creation of composites for different asset classes, sub-asset classes, and the total fund.

RESEARCH, ANALYSIS AND POLICY ISSUES

Q. Describe your research and analysis capabilities.

Research Group is composed of two divisions. The first covers broad issues related to capital markets. This area involves the understanding of investment strategies, asset class history and future assumptions, asset/liability analysis, and modeling of investment outcomes. Our seven asset class specialists compose the second part of the Research Group; consultants with research responsibilities enhance their capabilities. Manager research specialists are primarily responsible for investment manager coverage and market trend analysis of new manager products and strategies. Our Research Group has direct access to and works in concert with the BARRA Research Group located in Berkeley, CA, New York, NY, and London, UK. The consulting team acts as a liaison to the rest of the firm and draws on these specialists when the client relationship requires their specific area of expertise. Most client projects - asset allocation, investment structure design, and manager search - will include at least one member of the Research Group on the team.

Our research capabilities will benefit our clients by:

- Providing client-driven research on behalf of our clients
- Designing practical solutions to actual investment issues
- Becoming an extension of staff for your investment program

The following page lists BARRA RogersCasey's research resources.

CLIENT CONFLICT/REFERENCES

Q. Please list three clients as references for whom you have provided general pension consulting services. For each reference listed include client name, address, telephone number, and name of contact person.

Client	Contact & Phone	Address
New York City Teachers' Retirement System	Mr. Donald S. Miller Executive Director 212-442-5504	40 Worth Street, 13th Floor New York, NY 10013
Commonwealth of Pennsylvania SERS	Mr. Peter Gilbert Chief Investment Officer 717-787-9008	P.O. Box 1147 30 North Third Street Harrisburg, PA 17108
Fairfax county Ret. System	Mr. Jeffrey A. Willison Investment Manager 703-246-2396	10680 Main Street, Suite 280 Fairfax, VA 22030
Highmark Inc.	Mr. Joseph Reichard Director, Treasury Services	120 Fifth Avenue, Suite 911 Pittsburgh, PA 15222-3099
International Paper	Mr. Robert M. Hunkeler Vice President, Investments 914-397-1620	Two Manhattanville Road Purchase, NY 10577-2196

BIOGRAPHIES

KAMAL DUGGIRALA
President, BARRA, Inc.

Kamal Duggirala is responsible for managing the consulting activities of BARRA RogersCasey Investment Consulting worldwide. He is also involved with BARRA's core business with sponsors, investment managers, and broker/dealers in North America- Kamal has had extensive international experience working with BARRA's clients in Europe, Japan and the United States. In addition,, he is a member of the Management Committee for Investment Consulting, which is responsible for addressing business issues relating to our clients, financials, priorities, and our strategic agenda.

Kamal joined BARRA in 1984. Prior to his present position, Kamal was Vice President, Advanced Technology, responsible for developing the POSIT system, which is currently the leading electronic market for institutional portfolio trading. He also developed the BARRA Options Trading System which delivers advanced option analytics in a real-time environment,

Kamal received a M.S. in Operations Research and a M-B.A. in Finance from the University of California, Berkeley,

JOSEPH S. NANKOF
Managing Director, investment Consulting

Joe Nankof leads a relationship team that works with corporate and public funds, hospitals, and endowments to build the foundations for successful investment programs - a common understanding of the needs of the fund, a careful design of the investment structure, and close attention to manager selection and monitoring. Prior to leading a relationship team, Joe co-led the firm's Capital Markets research effort, working with clients on asset allocation strategies. In addition, he is a member of the Management Committee for Investment Consulting, which is responsible for addressing business issues relating to our clients, financials, priorities, and our strategic agenda.

Prior to joining RogersCasey in 1995, Joe worked as a Consultant in Towers Perrin's New York Consulting Office for eight years. He served as the lead consulting actuary to several. large corporations assisting with cost analysis and benefit design issues for retirement programs.

Joe earned a B.S. in Economics and Mathematics from the State University of New York at Stony Brook. He is also all Associate of the Society of Actuaries and a member of the American Academy of Actuaries.

SEAN P. CUMISKEY
Director, Investment Consulting

Sean Cumiskey is involved in client relationship efforts and works with public and corporate funds to build the foundations -for successful investment programs. Sean, in conjunction with his colleagues at BARRA, is also actively involved in total portfolio -risk analysis, the process of using advanced analytics to calculate and manage aggregate portfolio risk exposures.

Prior to joining RogersCasey in 1997, Sean held several positions at The Chase Manhattan Bank in New York, Los Angeles and San Francisco. He joined Chase as an Associate in the Management Development Program with a subsequent assignment in Chase Real Estate Finance. Sean was promoted to a Relationship Manager with the U.S. Private Banking Group, the Chase unit that manages the assets of High net worth individuals and families.

Sean graduated with a B.A. from the University of California, Los Angeles and with a M.B.A. in Finance from Columbia University Graduate School of Business.

Attachment 1 – Exhibit D
Investment Committee – Item 4
April 7, 1999

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
GENERAL PENSION CONSULTANT(S)

PROPOSAL QUESTIONNAIRE

A. FIRM NAME:	**Callan Associates**
B. MAIN ADDRESS:	**71 Stevenson Street, Suite 1300** **San Francisco, CA 94105**
C. CONTACT:	**Name: Toni L. Brown, CFA** **Title: Senior Vice President**

ORGANIZATIONAL BACKGROUND

Q. Please give a brief history of your firm, including the year the firm was founded. Specify the number of years your organization has been providing pension consulting services to tax exempt organizations.

Callan Associates Inc. is the largest privately-owned company engaged only in asset management consulting. Our company traces its origins to 1969 when Edwin C. Callan formed the investment measurement division of Mitchum, Jones and Templeton, a large West Coast brokerage firm. In 1973, Mr. Callan and others purchased the investment measurement division and formed Callan Associates Inc., a subchapter S Corporation incorporated in the State of California.

Callan Associates has been providing consulting services to tax-exempt organizations for 26 years, since our incorporation in 1973.

For more information, please visit our web-site at www.callan.com.

Q. Describe the ownership structure of your firm. Identify affiliated or subsidiary organization(s). Do investment professionals participate in equity ownership? If equity ownership is not available, is there a specific arrangement for sharing in the profits earned by the enterprise? Please describe.

Firm Ownership

Callan Associates is privately owned by its professionals and is not a subsidiary of any other firm. Currently, 35 key employees own stock. Edwin C. Callan is a major shareholder, but arrangements have been made to have his stock purchased over time by the active shareholders of the company. This plan presents opportunities for other key employees in the company to become owners.

Profit Sharing

In addition to the opportunity to own stock, all Callan employees with at least one year of service are eligible to receive Profit Sharing Contributions to their Retirement Savings Plan. At the end of each Plan Year, Callan makes Profit Sharing Contributions to the Plan on behalf of eligible participants.

Affiliates

Callan, Bacon & Woodrow -- Callan Associates, along with Bacon & Woodrow, a London based investment consulting and actuarial firm, fon-ned an affiliated company named Callan, Bacon & Woodrow in 1997. This joint venture company, formed in is structured specifically to provide integrated multi-national consulting capability. Callan, Bacon & Woodrow's aim is to help multinational organizations seeking to coordinate the investment of their pension plans across national jurisdictions, thus reducing costs, controlling risks and improving returns.

Alpha Management -- On November 1, 1998, BNY ESI & CO., a wholly owned subsidiary of the Bank of New York, acquired Callan's brokerage affiliate, Alpha Management Inc. Therefore, Alpha Management is no longer affiliated with Callan Associates.

Q. List the location of your headquarters and branch offices. State the primary function of each office.

Callan has five offices, all dedicated solely to investment consulting. Our corporate offices are located in San Francisco at the following address:

Callan Associates Inc.
71 Stevenson Street, Suite 1300
San Francisco, CA 94105
415.974.5060

Our regional offices in Atlanta, Chicago, Denver and New Jersey are located at the following addresses:

Six Concourse Parkway
Suite 2900
Atlanta, GA 30328-61 11
770.704.5585

550 East 8h Avenue
Denver, CO 80203
303.861.1900

120 North La Salle Street
Suite 2100
Chicago, IL 60602
312. 346.3536

163 Madison Avenue
6h Floor
Morristown, NJ 07960-7330
973.993.9595

Professional Staff

Q. Provide the names of professionals who will be assigned to the STRS account including the primary consulting and principal assistant (identify the primary consultant with an asterisk). Include the length of experience in pension consulting/advisory services.

Key Professionals				
Name	**Title**	**With Firm**	**+ Prior**	**= Years**
Toni L. Brown	Senior Vice President	9	0	9
Ronald D. Peyton	President and CEO	25	3	28
Gregory C. Allen	Executive Vice President and Director of Operations	11	0	11
Eric Colson, CFA	Senior Vice President and Manager, Global Manager Research	6	2	8
Janet C. Becker-Wold, CFA	Vice President and International Consultant	5	9	14
Ivan S. Cliff, CFA	Senior Vice President and Manager, Database Group	10	2	12
Jay Kloepfer	Director of Capital Markets Research	1	12	13
Bo Abesamis	Vice President	12	0	12
Sean Keene	Vice President	4	1	5
Gary Robertson	Vice President & Manager, Private Markets Group	8	7	15

ASSET ALLOCATION

Q. Please describe your process for determining the appropriate asset allocation for a public pension fund. At a minimum, include the criteria for which you base your assumptions.

Callan's proprietary asset allocation and liability modeling capabilities originated in the late 1970's, and are continually being scrutinized for enhancement. The improvements made over the years reflect the high priorities Callan devotes to state-of-the-art modeling technologies as well as over 20 years of accumulated experience in asset/liability modeling for large pension plans.

Our Asset/Liability Studies determine the most suitable fund structure that will result in the highest expected rate of return for a given level of risk. The study takes a long-term viewpoint and considers all appropriate investment vehicles within applicable legal and fund guidelines.

Callan Associates believes that it is extremely important for plan sponsors to re-visit their strategic asset allocation strategies every three-to-five years. As a result of changes in factors both internal (e.g., plan demographics, cash flow, plan wnendments) and external (e.g., financial markets, regulatory environment) to the plan, asset allocation strategies may require fine-tuning over time. If ignored, they could prove to dampen the plan's potential for meeting its long-term financial obligations.

AssetILiability Process

Optimization and MonteCarlo Simulation

A pension fund's strategic asset allocation is a primary determinant of the future growth and volatility of the plan assets. The objective of an asset allocation and liability study is to enhance the long-term security of the CAISTRS by identifying an asset allocation policy that achieves two primary objectives:

1. The policy should generate the maximum expected rate-of-retum given its expected level of risk; and

2. The policy should generate the appropriate level of risk for the plan given the plan's liability structure, expected cash flows, and funded status.

In order to identify the asset allocation policy that best achieves these two objectives, a two step process is undertaken. In the first step, Mean Variance Optimization is used to identify a series of asset mixes, ranging from lower risk to higher risk, that all satisfy the first objective. This series of asset mixes is commonly referred to as the efficient frontier. The mixes along the frontier are deemed efficient because they generate the maximum expected return for their expected level of risk. They do this by taking optimal advantage of low correlations between the performance behavior of the different asset classes of which they are composed,

In the second step we use Monte Carlo Simulation to evaluate the expected behavior of each of these efficient mixes in the context of the plan's future assets and liabilities. To achieve this step, a model is constructed of the plan using the plan's most recent actuarial valuation. This model allows us to project all of the key dimensions of the plan (membership, salary, benefits, liabilities, contributions, etc.), and determine their sensitivities to changes in future inflation and interest rates (the two primary drivers of liability volatility). By then simulating thousands of possible future capital market outcomes, and observing the interaction of assets and liabilities across all of these potential scenarios, we can begin to understand the effect that each asset mix might have on the future of the plan. This two step process is illustrated in the schematic diagram on the following page.

The Monte Carlo simulations provide a substantial amount of data about the potential future of the plan under each asset mix. The next challenge is to distill this data down into meaningful

information that can be used to support an asset allocation decision. As with any large data set, there are countless perspectives that can be taken that will support almost any conclusion. After employing this tool for over 15 years, Callan has developed an approach to interpreting the data that seems to resonate with plan sponsors, and generally results in very reasonable asset allocation policies.

Callan's Asset/Liability Reports provide an interpretation of the output from the Monte Carlo analysis, ultimately leading to a proposed asset allocation policy that best suits the future needs of the plan.

Asset Modeling

On the asset side, Callan developed a model based on Harry Markowitz's Nobel Prize winning work for Modem Portfolio Theory (MPT). MPT suggests that asset class returns and risks are correlated, so that an investor could diversify holdings infinitely, yet there would still be portfolio (systematic) risk.

The theory says that there are benefits of holding multiple asset classes that are not perfectly correlated. As illustrated below, even though hypothetical Asset Class A is somewhat correlated with hypothetical Asset Class B, the overall return volatility is reduced. Furthen-nore, return is not sacrificed, at 7.5% for the portfolio consisting of both asset classes and for Asset Classes A and B.

Mean Variance Optimization is a standard quantitative tool that is used to identify a series of efficient portfolios ranging from conservative to aggressive (the efficient frontier). The mixes along this frontier are deemed efficient because they generate the maximum expected return for their expected level of risk. They do this by taking optimal advantage of low correlations between the performance behavior of the different asset classes of which they are composed. Mean Variance Optimization requires projections of expected return and expected standard deviation for each of the asset classes being considered in the analysis. It also requires a projection of the correlations between these asset classes. The tables below summarize the projections, which would be used in any 1999 analysis for CalSTRS. The process that was used to develop these projections is detailed in the appendix of the sample Asset/Liability Study located in Section IV of the Appendix.

Capital Market Projections

Retums and Risks - Clearly, the assumptions for risk, return and correlation of the asset classes are a key input into the process. The return and risk projections below describe Callan's estimation of asset class performance over the next five years. Projected return is the expected median (50th percentile) annual return over a five-year period. The projected risk is the expected annual standard deviation, indicating the amount of variability around the median return that is likely to occur in any given year within the five-year period.

Return and Risk Projections

Asset Class	Proxy Index	Projected Return	Standard Deviation
Broad Domestic Equity	Callan Broad	9.4	16.3
Large Cap Equity	S&P 500	9.0	*15.0*
Small Cap Equity	Callan Small	11.2	25.3
International Equity	MSCI EAFE Index	10.0	21.5
Domestic Fixed	Lehman Govt/Corp Bond	5.6	5.3
High Yield Bonds	First Boston High Yield	6.8	9.9
Cash Equivalents	90-Day T-Bills	4.4	0.7

Correlations - The correlation estimates below describe the degree of co-movement between asset classes. Correlations can range from +1.0 to -1.0. A correlation of +1.0 means that the two asset classes move in exactly the same manner or direction, and a correlation of -1.0 means that the asset classes move in exactly opposite directions. Adding an asset class with a low correlation to existing asset classes in a portfolio can reduce overall risk.

Correlation Projections

Correlations	Broad Equity	Large Cap	Small Cap	Intl Equity	Dom Fixed	High Yield	Cash Equiv
Broad Equity	1.00						
Large Cap	0.96	1.00					
Small Cap	0.90	0.80	1.00				
Int'l Equity	0.57	0.57	0.44	1.00			
Domestic Fixed	0.33	0.35	*0.30*	0.36	1.00		
High Yield	0.61	0.60	0.65	0.40	0.52	1.00	
Cash Equiv	-0.12	-0.10	-0.15	-0.25	0.12	0.06	1.00

When Callan performs asset allocation studies, we generally suggest portfolios meeting this mean-variance criterion. The main result of mean-variance optimization is overall portfolio risk, as measured by standard deviation of returns, can be reduced by including less than perfectly correlated portfolio assets.

Key to the study from CalSTRS perspective is the actual decision-making process. We have developed a cost-based decision variable which has proven very effective in assisting clients in their decision-making.

Cost-Based Decision Variable

In order to determine which asset mix is most appropriate for a particular plan, a sponsor must establish a set of decision-making criteria. The first step in establishing these criteria is to determine the mission or primary goal for the plan. In general, the most important goal for most retirement plans is to ensure that all future obligations to the beneficiaries will be met. This is the real purpose of the actuarial valuation. Once each year, the valuation does a reconciliation of assets and liabilities to determine how much the sponsor must contribute to meet this primary

goal. To the extent that assets exceed liabilities, the sponsor may be able to reduce contributions to the plan. To the extent that assets fall well short of liabilities, the sponsor may be required to make substantial contributions.

The annual valuation acts as a governor, enforcing the primary goal of the plan through required contributions. It also provides some very useful diagnostics on the ongoing health of the plan that can be used to evaluate the relative merit of different investment policies. The diagram below schematically illustrates this point by showing the interaction of the plan assets, liabilities, and the valuation over a one-year period.

The actuarial valuation determines the size of the annual contribution, as well as the size of the plan's unfunded liability. Contributions (what the plan sponsor must pay in), and the Unfunded Liability (a discounted measure of what the plan sponsor still owes) can be added together to calculate the true cost of the plan over a period of time. Since these cash-flows do occur over a period of time, they must be discounted by the appropriate rate to maintain consistency. In our analysis, we refer to this measure as the **Ultimate Net Cost** of the plan, The Ultimate Net Cost over a five-year period is defined in the formula below.

PV of Contributions in Each Year over Five Years
+ PV of Unfunded Actuarial Liability at the End of the Five Years
= Ultimate Net Cost

Experience has shown us that Ultimate Net Cost is a very reasonable decision variable for guiding an asset allocation decision. It takes into account all of the costs (both ongoing and future) that a sponsor incurs to support the plan over the evaluation period (typically five years). By searching for investment policies that minimize the Ultimate Net Cost over the widest range of future capital market behavior, the sponsor is protecting the best interests of both the beneficiaries and the sponsoring organization.

The rest of this report will provide the background information that will ultimately support the Ultimate Net Cost calculation. By accurately characterizing both asset and liability behavior (with particular emphasis on their interaction), the Monte Carlo Simulation process will provide us with the best possible estimate of the impact of investment policy on Ultimate Net Cost.

Callan's Quantitative Consulting Group performs all of our clients' Asset/Liability Studies. Once a draft is developed, the Study is presented to Callan's Client Policy Review Committee. This committee, comprised of senior level consultants and specialists, reviews all strategic planning studies. In addition to providing necessary oversight, the Committee brings valuable experience to bear on each and every study thus creating a situation where every client benefits from the collective wisdom of the firm. CAISTRS designated consultant, Ron Peyton, is the Chairman of this Committee.

Q. Describe your process for developing, recommending and maintaining a client's investment policy, strategy and asset mix.

Developing

The Asset/Liability Study is the cornerstone of developing a client's investment policy, strategy, and asset mix. Given that asset allocation is the single most important decision a Board can make, we have created a process and a report, which provide the client with all the salient information necessary to confidently make an informed decision. Key in decision-making is the Cost-based Decision Variable described above.

The asset mix determined drives the investment policy and long-term strategy. Additionally, the policy and strategy include further detail as to the structure of the investment managers within each asset class. The structure is designed to create a portfolio which will, over time, outperform the passive index for that asset class.

Maintaining

Annual review ensures effective investment strategy and asset allocation targets:

Callan will perform annual (more frequently if significant changes occur in either the plan or the capital markets) reviews of CalSTRS' investment policy, investment strategy and asset allocation targets to ensure that they continue to be appropriate given any changes in the economic outlook or in the liability projections. In addition, the *Client Policy Review Committee* periodically reviews the validity of all clients' asset allocation under the current economic forecasts.

Continuous review of investment policy:

Callan realizes that asset allocation is not a static consideration for Retirement Boards. It is an ever-changing process that needs to be fine-tuned from time to time. Callan's process for maintaining and providing a continuous review of investment policy, investment strategy and portfolio mix covers these areas:

- Continued assistance in implementing the adopted program.
- Consulting advice on how different capital market assumptions will affect market values and costs.
- Consulting advice on how changes to the liabilities (pay increases, benefit improvements, work force growth rates, etc.) will affect liabilities and costs.
- Help maintain investment program consistency.
- Keep the Board current on new investment alternatives and investment manager options.
- Advise on contribution direction.
- Adjust performance benchmarks to maintain appropriate risk posture.
- Adequately instruct managers regarding their roles within the investment program. Clearly evaluate investment manager results and the total fund's progress toward the desired investment objectives.
- Review and refine investment policies over time.

Q. Describe how benchmarks are researched and recommended. Describe how performance is compared to similar portfolios.

Benchmarks

Benchmarks are selected based on the goals and objectives set forth in the Investment Policy and Guidelines Statement. For example, if a client's goal for domestic equity is to outperform the Russell 3000, then the benchmark for total domestic equity would be this index. Examples of other equally appropriate domestic equity benchmarks include:

- Callan Broad Market Index
- Standard & Poor's 500
- Wilshire 5000
- Actuarial Assumption
- Inflation Rate plus x%
- Blended Index: x% S&P 500 plus x% Callan Small Cap Index
- Top Quartile of Callan Total Equity Database

That is certainly a simple overview of benchmark selection. It can be much more intense and thorough. It is reasonably straightforward to evaluate and determine an acceptable benchmark for each broad asset class. Determining the best benchmark for each individual manager or portfolio is not as clear.

When determining a benchmark for an individual portfolio it is first necessary to understand the beginning universe of securities for each manager and how they then select the specific securities to hold in the portfolio. We research this information through on-site visits with the investment professionals running the portfolio. We recognize the importance of understanding the process currently employed as well as the importance of understanding the consistency of that process and of that beginning universe of securities. There is no question that the best benchmark for any given manager would be a normal portfolio. Unfortunately, it is very expensive and time intensive to create such normal portfolios. Therefore, standard indices generally become the benchmark of choice. Having evaluated style and universe of the portfolio has been evaluated, it becomes key to understand the composition of the indices available in the market place. There are no "perfect" indices. Callan maintains an extensive database of indices which include returns, overall characteristics of the securities held, general composition, sector allocation, etc. Know the portfolio and the possible indices, actually selecting an appropriate benchmark relies on evaluating the strengths and weaknesses of each and how those might impact the measurement of the portfolio.

In addition to each benchmark being appropriate for each individual portfolio, the benchmarks selected must compile to a logical broad benchmark. To provide a simplistic example, consider a fund which has the Lehman Aggregate as a benchmark for the broad fixed-income. It would be inconsistent then, for this same fund, with only one fixed-income portfolio to have the portfolio benchmark be the Lehman Government/Corporate. We believe the pieces must fit each manager and then logically build to the total asset class level.

Peer Group Comparison

Comparison to similar portfolios is an important aspect of performance evaluation. Callan is a pioneer in the development of proprietary investment style peer groups. Our style groups have been developed and maintained utilizing rigorous quantitative and qualitative analysis. We study historic performance patterns and, through cluster analysis, identify those managers who have demonstrated statistically meaningful performance characteristics. We then analyze their underlying portfolio characteristics, evaluate their stated investment style and reach a determination as to the consistency of application of the approach. We do not force managers into a style group. Rather, we recognize that more than half the managers in our database do not fit into any single group.

As with benchmarks, it is often a tradeoff of characteristics to determine the most appropriate style. The purity of our style groups helps us better evaluate that tradeoff. Our style groups are comprised of investment manager composite data. Therefore, our style groups minimize survivor bias and never have the same manager product represented more than once. For example, many large databases are built from actual client portfolios. Databases built in this fashion tend to have a manager's product represented more than once since Manager ABC manages a portfolio for numerous different clients. This type of multiple representation tends to bias the style groups upward, leading to frequent and costly manager turnover.

Callan feels it is important to compare managers to a peer group when it is appropriate to do so. And it usually is appropriate. In addition to return and risk comparison, we feel an evaluation of portfolio characteristics is necessary to ensure managers are adhering to the style for which they were hired.

REPORTING

Q. What is included in the standard reporting package you supply to your clients?

Our standard reporting package typically includes the following major elements. Please refer to the sample Performance Evaluation Report in Section VI of the Appendix.

A) Market Environment - one page is devoted to displaying information about the major asset classes - domestic equity, domestic fixed-income, international equity and international fixed-income over the latest quarter and the last year as well as one page reviewing the major indices vs. six asset classes including the above asset classes and real estate and cash equivalents.

The purpose of these pages is to highlight patterns of performance and to point out trends in the relative performance of investment styles. By understanding which asset classes and which styles are in favor at a given time, we provide a framework for evaluating the performance of the managers employed by the Fund.

B) Fund Profile including:

- Actual Asset Allocation vs. Target - visual representation of CalSTRS' actual allocation vs. your target allocation as outlined in your investment policy guidelines. Also shown is the asset breakdown of other public funds.

- Performance vs. Investment Guidelines (Total Fund Attribution) - provides a comparison of your fund's performance vs. the performance of your benchmark. Using indices such as the S&P 500, Lehman Aggregate and EAFE, a hypothetical return is calculated using the weights from your target. This return is compared to your actual return and the under/over performance is quantified and broken down into two effects, manager effect and asset allocation. From this you can determine if your managers are meeting their benchmarks and if the fund is being kept in balance according to your predetermined goals. This analysis can be shown for various time periods. A detailed description of our Total Fund Attribution is provided in the following paragraphs.

  Total Fund Attribution focuses on evaluating the difference in the fund's total rate of return and the total rate of return of the fund's target index. The analysis attributes the difference between the two returns to two factors: *the manager effect and asset allocation effect*

  To explain the difference between the total fund return and the total target return we first change one of the two factors that determine return and construct an intermediate portfolio. The intermediate portfolio is constructed by using the returns of the target index and the actual weights of the fund.

  The intermediate portfolio return is the return that the fund would have earned if each manager had achieved its benchmark index, using the fund's actual asset allocation. In this way we are isolating the impact of the sponsor's decision to weight the asset classes differently from the policy target. The difference between the total target return and the intermediate portfolio return is called the *asset allocation effect.*

  We next work to isolate the second factor in explaining total fund performance: the *mtintiger effect.* To measure the *manager effect,* the total fund return is divided by the intermediate portfolio return. This procedure works because the two returns use the same asset weights and vary only in the use of actual returns versus target returns.

  By construction, the *asset allocation effect* and the *mcintiger effect are* multiplicative, and together explain all the difference between the total fund return and the total target return.

Cumulative Attribution: The asset allocation and manager effects are calculated on a quarterly basis. The effects are then transformed into factors and stored. These quarterly factors are linked to compute the compounded cumulative effects over any time period.

Total Fund attribution can be found on pages 4 and 7 of the sample Investment Measurement Report in Section VI of the Appendix.

- Cumulative Results - a graphic display of your fund's performance over the longer time period to determine on a cumulative basis how you are doing versus your benchmark.
- Actual vs. Target Historical Asset Allocation - a visual display to see how your fund's actual allocation compares to the allocation of your benchmark
- Total Fund Ranking - this page shows two rankings of the total fund. One is a standard ranking based purely on performance results. The other is an adjusted ranking for which each fund in the appropriate database group is adjusted to have the same historical asset allocation as the total fund.
- Asset Class Risk and Return - shows the annualized risk and return for each of CalSTRS asset classes compared to appropriate market indicators and databases
- Asset Class Rankings - asset class returns are ranked against the appropriate comparative databases
- Manager Asset Distribution - a page is included to show how much money each manager has comparing the current quarter with the previous quarter
- Investment Manager Returns - details the rates of return for the plan's investment managers and asset classes for various time periods including appropriate benchmarks and databases

C) Performance Exhibits are created for each manager, contrasting performance with specific benchmarks and market indices. We also compare each manager's performance with the appropriate aggregate database as well as appropriate style groups. These pages can include information regarding the investment philosophy of the manager, summary and highlights about the fund's performance, values showing how assets have grown/decreased through net new investment and investment gains/losses, comparison of the fund against the appropriate style group and benchmark/index, portfolio characteristics, cumulative results and risk/reward statistics.

D) Detailed individual manager portfolio analysis can also be presented for each manager. This analysis includes: a return analysis summary which shows cumulative and quarterly returns vs. the manager's benchmark and risk adjusted return measures, a risk analysis summary that displays the standard deviation and residual risk of the fund compared to its style group peers, a style analysis summary contrasting the manager's equity style with the exposures employed by other managers in the account's style group, and an examination of portfolio characteristics (average quality, maturity duration, yield, coupon, etc. for bond portfolios; P/E, Price to book, yield, dividend and earnings growth, sales, market capitalization, etc. for domestic equity portfolios; currency, country exposure for international equity portfolios).

E) Performance attribution analysis for domestic and international portfolios - for domestic equity accounts a buy and hold attribution model is shown, breaking down under/over performance into effects attributed to sector concentration, stock selection and trading. For international equity portfolios, the effects due to country selection and security selection are analyzed and regional weights are compared and contrasted. For domestic fixed-income funds, five effects are analyzed including duration, term structure, quality, sector and trading/issue.

Real estate accounts can be analyzed in a similar fashion displaying returns broken down by income/appreciation and retained/distributed earnings. A breakdown by geographic region and property type can also be shown. A detailed discussion of attribution analysis can be found in the answer to question IV, B.

RESEARCH, ANALYSIS, AND POLICY ISSUES

Q. Describe your research and analysis capabilities.

Callan maintains the following specialized consulting groups, centrally located in San Francisco, providing our plan sponsor consultants and clients with technical support and research in a number of specialized disciplines. These resources will be made available to CalSTRS through your consultants, Ron Peyton and Toni Brown:

- *Quantitative Consulting* - Our quantitative consulting group specializes in asset allocation and liability modeling, strategic planning, capital market projection, and manager structure optimization, security lending, performance-based vs. asset-based fees, and custody services.

- *Global Manager Research* - This group of thirteen professionals provides technical support to plan sponsor consultants, and includes specialists in both domestic and international investments. The sole responsibility of our Global Manager Research Department is to research investment management organizations and investment products. Its staff routinely meets with investment managers in our offices and also conducts periodic on-site due diligence. This group of professionals also assists the primary consultant in conducting investment managers searches for plan sponsor clients.

- *Real Estate Manager Research* - Our real estate group monitors Callan's universe of real estate managers and investment vehicles, helps develop strategic investment plans for the real estate segment of client portfolios, and conducts real estate performance evaluation.

- *Alternative Investments Consulting* - Callan's approach to strategic alternative investments consulting is research intensive. Our alternative investment professionals provide clients with private placement memorandum reviews, which identify the merits and risks associated with a specific partnership. Callan can provide help in determining appropriate structuring and diversification within the alternative asset class allocation. Our expertise extends beyond private equity and includes natural resource investments (such as oil & gas), managed futures, hedge funds, distribution management and other alternative products and services offered in the marketplace.

- *Global Trust/Custody/Securities Lending* - Callan's dedicated Trust, Custody and Securities Lending Group helps clients address such issues as global custody, fees, benefit administration, on-line systems and technology, back-office applications, cash management, client servicing, risk and guideline compliance, multinational trusts, contract and securities lending. This group can assist clients achieve cost efficiency and effective oversight.

- *Defined Contribution Services* - Our defined contribution consulting services group assists plan sponsor clients in meeting the ERISA-defined fiduciary requirements of managing defined contribution plans, The process usually begins with a plan review; followed by a fund/manager review; development of policy guidelines; review of participant recordkeeping/administration; a fee analysis; vendor search and analysis; ongoing performance review; as well as plan level education and materials review.

Database and Style Group Research - Callan's Database Group actively monitors approximately 4,000 institutional funds ranging from domestic equity, fixed-income and real estate, to global equity and fixed-income. These funds form the basis for our style groups that play an integral role in our performance measurement and comparison process.

Callan Investments Institute - Another important research source, is the Callan Investments Institute, which is the educational and research facility of Callan Associates. The Institute conducts original research on topics of interest to members and issues timely research "white papers" and surveys on new tax-exempt fund developments. Samples are included in Section VII of the Appendix. As a Callan client, CalSTRS automatically becomes a member of the Institute. The Institute sponsors conferences which provide a stimulating forum for plan sponsors to exchange ideas and techniques to help them manage their tax-exempt funds more professionally and effectively. Through these national and regional educational conferences, statistical studies and special research projects and surveys, the Institute keeps plan sponsors up-to-date on the latest industry developments that can affect their jobs. CII is responsible for the dissemination of Callan's original research and surveys.

" Callan College" - The Center for Investment Training is an educational facility that offers basic-to-intermediate level instruction on the investment management process. Also known as "Callan College," the Center has developed a core curriculum that is tailored specifically for investment fiduciaries and their advisors. The curriculum addresses the key components of the investment management process, such as fiduciary standards and responsibilities; capital markets theory, asset allocation and writing investment policy statements; manager structure and search procedures; and performance measurement and evaluation. The Center organizes five two-and-a-half day sessions each year, which are taught by senior Callan consultants and staff at Callan's San Francisco headquarters.

Q. Please list three clients as references for whom you have provided general pension consulting services. For each reference listed include client name, address, telephone number, and name of contact person.

Client	Contact Name	Address	Phone Number
State of Hawaii Employees' Retirement System	Nathan Fisher Chief Investment Officer	City Financial Tower 201 Merchant St., Ste. 1400 Honolulu, HI 96813	(808) 586-1700
Alaska State Pension Investment Board	Robert D. Storer Chief Investment Officer	State of Alaska Dept. of Revenue, Treasury Division 333 Willoughby Ave., 11th Flr. Juneau, AK 99811	(907) 465-4880
Entergy Corporation	Gary Hofman Asst. Treasurer	639 Loyola Avenue L-ENT-15E New Orleans, LA	(504) 576-4313

BIOGRAPHIES

RONALD D. PEYTON
President And Chief Executive Officer

Ronald D. Peyton is President and Chief Executive Officer for Callan Associates Inc., an investment consulting firm specializing in strategic planning and evaluation for large pools of capital. Callan Associates, with offices in San Francisco, Chicago, New York, Atlanta and Denver, was founded in 1973.

Mr. Peyton joined Callan Associates in 1974 as a Vice President and consultant in the Chicago Office. Since that time, he has worked with many large investment funds to plan, structure and monitor effective investment programs. He is a frequent speaker at business conferences such as the Callan Investments Institute, Council of Institutional Investors, Institute 'for Fiduciary Education, Institutional Investor, International Foundation of Employee Benefit Plans, NASRA, NCPERS, and many others. Currently, Mr. Peyton serves on the AIMR Performance Presentation Standards Implementation Committee, is Chairman of Callan's Client Policy Review and Management Committees, and is a member of the Callan Board of Directors.

Prior to joining Callan Associates, Mr. Peyton worked with Marathon Oil's pension investments, in addition to other financial responsibilities. Mr. Peyton earned a B.S. degree in Accounting and a M.B.A. degree in Finance at Indiana University.

TONI L BROWN
Senior Vice President
Toni L. Brown**,** CFA, is a Senior Vice President at Callan Associates. Her clients include several major corporations as well as foundations/endowments, She works on all types of projects for her clients, including manager searches, asset/liability studies, and development of customized performance measurement reports.

Toni joined Callan Associates in January of 1990 and, prior to joining San Francisco consulting, was a manager for Callan's Client Report Services Group. In addition to supervising a staff of senior analysts, she was responsible for developing and implementing new performance evaluation products. Toni has also worked for regional consulting firm R V Kuhns and Associates.

Toni received her B.S. in General Business from the University of Denver and her M.B.A. from Arizona State University. She is a Chartered Financial Analyst. Toni belongs to the Security Analysts Society of San Francisco and is a member of their Education Committee. She is also a member of the Association for Investment Management and Research, and the Western Pensions and Benefits Conference,

Attachment 1 – Exhibit E
Investment Committee – Item 4
April 7, 1999

STATE TEACHERS' RETIREMENT SYSTEM
GENERAL PENSION CONSULTANT(S)

PROPOSAL QUESTIONNAIRE

A.	**FIRM NAME:**	**William M. Mercer Investment Consulting, Inc.**
B.	**MAIN ADDRESS:**	**Corporate Headquarters** **1166 Avenue of the Americas** **New York, NY 10036**
C.	**CONTACT:**	**Name: Terry A. Dennison** **Title: Principal**

ORGANIZATIONAL BACKGROUND

Q. Please give a brief history of your firm, including the year the firm was founded. Specify the number of years your organization has been providing pension consulting services to tax exempt organizations.

Founded in 1972, William M. Mercer Investment Consulting, Inc. (Mercer Investment Consulting) has been providing investment consulting services to tax exempt organizations for 27 years.

Q. Describe the ownership structure of your firm. Identify affiliated or subsidiary organization(s). Do investment professionals participate in equity ownership? If equity ownership is not available, is there a specific arrangement for sharing in the profits earned by the enterprise? Please describe.

William M. Mercer Investment consulting, Inc. is a wholly owned subsidiary of William M. Mercer, Inc. a leading benefit, compensation and human resource consulting firm in the United States. William M. Mercer, Incorporated is the U.S. operation company of William M Mercer Companies, LLC., a leading global human resources consulting firm. We are part of Mercer Consulting Group, which also includes William M. Mercer Companies, LLC., Mercer Management Consulting, Inc. and national Economic

Research Associates, Inc. (NERA). Our ultimate corporate parent is Marsh & McLennan Companies, Inc., the Fortune 500 diversified financial services firm.

Senior level consultants are compensated by a base salary and also participate in an Incentive Compensation Plan, a discretionary plan that is based on individual and team contributions to client satisfaction, intellectual capital, and corporate and investment consulting financial results. Additional benefits include defined benefit and defined contribution plans and a stock investment plan. Marsh & McLennan's ESOP provides the opportunity for Mercer employees to invest in Marsh & McLennan's stock on a tax-deferred basis.

Many of the investment consultants participate in the Stock Investment Plan of Marsh & McLennan but none own more than 10% equity.

Q. List the location of your headquarters and branch offices. State the primary function of each office

Mercer Investment Consulting provides investment consulting services from the following offices in the United States:

Corporate Headquarters:

William M. Mercer Investment Consulting, Inc.
Corporate Headquarters
1166 Avenue of the Americas
New York, NY 10036

Branch Offices:

Atlanta, GA	New York, NY
Baltimore, MD	Philadelphia, PA
Boston, MA	Princeton, NJ
Chicago, IL	Richmond, VA
Cleveland, OH	San Francisco, CA
Denver, CO	Seattle, WA
Los Angeles, CA	Stamford, CT

The primary function of all branch offices is to provide client consulting services.

In addition, mercer Investment Consulting maintains a Global Resource Group at two locations in Illinois. The GRG Deerfield location provides performance measurement evaluation and technology support. The GRG Chicago office provides capital markets and manager research as well as some specialized consulting such as annuity placements.

Professional Staff

Q. Provide the names of professionals who will be assigned to the STRS account including the primary consultant and principal assistant [identify the primary consultant with an asterisk(*)]. Include the length of experience in pension consulting/advisory services.

KEY PROFESSIONALS				
		Investment Experience		
Name	*Title*	*With Firm*	*+ Prior*	*= Years*
Terry A. Dennison*	Principal/Senior Consultant	12	15	27
Thomas J. Lightvoet	Principal/Senior Consultant	3	13	16
Robert A. Blum	Principal/Client Relationship Manager	7	25	32°
Kristine L. Ford	Principal/Senior Consultant	9	15	24
Lawrence E. Gibson	Principal/Natl Practice Leader	9	14	23
Thomas Anichini	Principal/Dir-Manager Research	2	3	5
Andrew Rassmusen	Principal/Director of Research	8	2	10
Dr. Louis Finney	Principal/Economist	10		10
Linda Suzuki-Parker	Consultant/Consulting Support	7		7
David M. Lincoln	Senior Analyst/Consulting Support			

ASSET ALLOCATION

Q. Please describe your process for determining the appropriate asset allocation for a public pension fund. At a minimum, include the criteria for which you base your assumptions.

We expect that the long-term asset allocation for STRS would be determined through an asset/liability management study. Periodically, STRS should review its asset allocation and that process may lead to some/all of the changes listed below:

- Expanding the diversification of the Fund through the inclusion of new investment opportunities, securities, processes or styles.

- Increasing or reducing investment managers' latitude in either their approach to investment or the types of securities in which they can invest.

- Adjusting the Fund's cash position.

Annually, we would propose to review with the investment staff and the Board the investment environment and its implications for STRS' current investment structure and asset allocation.

If an update to the asset allocation is required, Mercer would use its innovative, inflation and corporate earnings-based economic model to generate not a single set of return/risk/correlation assumptions, but a 3 x 3 matrix of assumptions with the current economic environment along the growth/inflation dimensions in the center cell.

The other cells are internally consistent assumption sets for possible alternative scenarios. The matrix appears as follows.

More Growth/Less Inflation	More Growth	More Growth/More Inflation
Less Inflation	Current Economic Environment	More Inflation
Less Growth/Less Inflation	Less Growth	Less Growth/More Inflation

The asset allocation process can then develop not just the most likely scenario but also stress-test the allocation for alternative scenarios, particularly those which are likely to have a negative impact on the securities markets

Q. Describe your process for developing, recommending and maintaining a client's investment policy, strategy and asset mix.

We anticipate using the following process to recommend investment objectives and policies for STRS.

Step 1: Review *key documents* – Review with staff all provisions of the present Statement of Investment Policy, and any other Fund objections and policies. This review will determine the areas that may need to be revised, expanded or deleted.

Step 2: *Identify modifications* – Prepare the proposed modifications to the Statement of Investment Policy based upon the asset allocation and liability study recently completed for STRS. If the market environment has changed significantly from that existing when the last asset allocation was completed, the process discussed above for assumption determination and asset allocation analysis will be completed.

This process may result in a revision of the target asset allocation and possibly the allowable investment ranges for each asset class. Together with the investment staff, we would thoroughly review each segment of the Investment Policy and incorporate any changes due to current market conditions and investment opportunities as well as the long-term objectives of the Fund.

Step 3: *Present draft of objectives and policies* – A preliminary draft of the revised Statement of Investment objectives and Policies would be presented to the STRS' Board. Based upon the discussion with the Board, the objectives and policies would be revised.

Step 4: *Discuss with investment managers* – Distribute the relevant sections of the investment objectives and policies to STRS' investment managers for their comments and input. Once their input is received, the investment staff and Mercer would review their comments and determine what, if any, modifications should be made to the objectives and policies for STRS.

Step 5: *Present final document* – Present a final draft of the investment objectives and policies to the STRS' Board for review and approval.

Q. Describe how benchmarks are researched and recommended. Describe how performance is compared to similar portfolios.

Benchmarks should be in place for both asset classes and managers. We believe that a critical benchmark for asset classes is the assumed return and risk used for the last asset allocation process. If the observed performance of the asset class is significantly different from that assumed when the asset mix was developed, it may be necessary to review the asset allocation to reflect changed circumstances. It is also valuable to maintain a benchmark which permits continuous evaluation of the active/passive implementation decision.

Mercer believes that managers should be compared to both passive indices and to peer groups. The evaluation relative to passive indices evaluates active value-added versus a passive implementation alternative. To support this analysis, our performance system maintains more than 250 indices from which customized benchmarks may be constructed.

We have developed benchmark structures that are on risk adjusted basis. This is desirable as increasing risk in improve performance is not in the best interests of the client.

In addition to passive index benchmarks, we believe that managers should also be evaluated relative to their peers. The relative performance benchmark measures the quality of the results versus other active alternatives. To support this type of evaluation, we have developed universe and peer group comparisons for many asset classes and manager styles. In addition, we construct Client-specific peer groups and provide relative performance evaluations and measures of the historical return and risk of that asset class or style.

Variables which Mercer would consider in recommending performance benchmarks for STRS would include:

- Performance over a variety of time periods
- Historical experience of the relevant asset class(es)
- Historical experience of the relevant subclass(es) or market segment(s)
- Historical real return levels
- Historical experience of the styles of management
- Volatility of the asset classes, market segments and styles
- Potential benefit of customized or normalized benchmarks
- Availability of relevant, widely recognized benchmarks
- Frequency of evaluation
- Ease of use by the Board and Staff of STRS

For STRS, we would identify the variables to be considered for each asset class, subclass or style, then determine the approach performance benchmarks for each segment of the portfolio. We would aggregate the benchmarks of each component to create asset class and/or Total Fund benchmarks.

We suggest that for each segment of the portfolio, several performance benchmarks be developed. These include:

- A real return standard of performance (return over inflation);

- A return standard of performance relative to an index representing the appropriate segment of the market;

- A return standard of performance relative to similarly managed pools of assets/managers; and

- A standard of performance for the volatility of returns.

In addition, the time period or time horizon, over which the benchmarks are to be achieved, should be specified as an integral part of the benchmark.

REPORTING

Q. What is included in the standard reporting package you supply to your clients?

Performance evaluation reports are designed to meet the needs of each client. The technology, which is used to generate the reports, is integrated with Microsoft Office to generate a customized, desktop published report.

The structure and layout of each client's report is designed by the consultant to identify the critical issues warranting attention, routine due diligence reporting, and specialized areas of focus appropriate to the portfolio structure and desires of each client. Reports can use integrated text, tables, and graphics, in color; to convey the information of a manner best suited for each audience.

Reports generally include an executive summary, which identifies the main points and highlights items requiring critical attention. The executive summary includes an economic overview to put the portfolio's performance in perspective. The consultant's recommendations for reviews or changes are provided as part of the executive summary.

The main body of the report includes performance results, for the total plan, individual portfolios, and asset classes within portfolios. We also report sector returns within the equity portfolios and fixed income portfolios. The periods are tailored to specific portfolios but generally include current quarter, year-to-date, trailing one/three/five years, and since inception.

Performance results are compared to appropriate benchmarks including market indices, customized client/manager specific benchmarks, and appropriate comparative universes.

Portfolio analytics review portfolio structure, relative and absolute risk exposures assumed, and risk/return efficiency. BARRA E-2 Equity Model risk statistics and Sharpe Effective Asset Allocation analysis is available. Mercer also provides several performance attribution models.

We can also provide detailed asset-by-asset based analysis and accounting reports such as financial reconciliation showing fund flows and both realized and unrealized gains and losses.

RESEARCH, ANALYSIS, AND POLICY ISSUES

Q. Describe your research and analysis capabilities.

A manager research team in the GRG has been established to devote their activities to the database by interviewing and analyzing managers and updating data records. All research maintained in the databases is completed internally by Mercer Investment Consulting staff. The GRG is also available to pursue special research projects for Mercer Investment Consulting consultants. The Resource Group focuses on remaining on the forefront of investment research and technology. The GRG often supports the field consultants' specialized client projects by developing proprietary software programs and undertaking cutting-edge research projects.

Investment Analysis System (IAS)
Investment Analysis System (IAS) has been updated six times over the past three years. With our conversion Microsoft Office software in constructing our performance evaluation reports, we have made IAS accessible through a Windows operating environment.

Separately, Mercer Investment Consulting has made substantial progress in automating the report production process, while retaining the ability to customize reports to meet client-specific needs. We have developed a software package (PERS) that allows consistent construction of performance evaluation reports.

Performance Evaluation Reporting System (PERS)
Performance Evaluation Reporting System (PERS), a core performance evaluation report builder and toolkit, was developed to deliver the highest quality performance measurement reports. The PERS program is a Windows driven program that allows IAS interface to assist in the creation of table and chart exhibits that may be included in all standard performance evaluation reports. The dialog boxes allow the user to input the corresponding portfolios, time periods, indices and universes to create tables and charts in an Excel format. After the exhibits have been created, the table or chart is linked to the Word report template. This report builder will also provide a consistent "look" of all Mercer Investment Consulting performance reports and support the highest quality performance evaluation services.

Manager Search System (MSS)
At the end of 1995, Mercer Investment Consulting undertook a major effort to centralize investment manager research and search report production. As a result, we enhanced our Manager Search System (MSS) to reflect the best practices from across the firm on particular data items to be included in standardized search reports and new analytical tools for evaluating investment products. We also developed a new system called MICRO, which enables us to produce very comprehensive search reports from our central research headquarters in Chicago. Your consulting team in the Chicago office works with the research group to produce search reports customized to your needs.

The product coverage of MSS has increased dramatically over the past three years, rising from about 4,500 to almost 5,500 products. We have modified MSS to account for new product categories and made ongoing enhancements to the data items tracked. Over the same period, the volume of qualitative analysis housed in MSS based on our interviews with investment managers has also increased dramatically. The database includes notes from over 1,000 meetings over the period.

At the same time our manager meeting notes are stored on MSS, we circulate them internally on a global basis. We are working towards using an Intranet as a future storage and retrieval facility.

Also, we are dedicating significant resources to developing an integrated global database to help our staff in 36 offices around the world serve clients.

Liability and Actuarial Cost Calculation System
Our liability and actuarial cost calculation system is used by Mercer actuaries worldwide. It is constantly updated to comply with changes in legislation, such as the recent increase in future full funding limits in the United States.

Our economic model has gone global this year. It now can simulate multiple world economies and relates economic growth, yield curves, inflation and currency. On a more technical note, based on a request from our UK asset/liability consultants, it is currently being enhanced to include Poisson distributions for extremely rare economic events.

Our results viewer was originally designed by our office in the Netherlands several years ago. Now it is used globally to relate simulated results to client objectives. New graph types were recently added, and a future release is already in progress.

CONFLICT/ CLIENT REFERENCES

Q. ***Please list three clients as references for whom you have provided general pension consulting services. For each reference listed include client name, address, telephone number, and name of contact person.***

Name	Address	Phone	Contact
Arizona State Retirement System (Consultant – Terry Dennison)	3300 N. Central Avenue, Suite 1200 Phoenix, AZ 85067	(602) 240-2050	Mr. LeRoy (Gil) Gilbertson, Director
Colorado Public Employee's Retirement Association (Consultant – Terry Dennison)	1300 Logan Street Denver, CO 80203	(303) 837-6289	Mr. Norman G. Benedict, Deputy Executive Director
New York State Common Fund (Consultant – Kristine Ford)	AE Smith Office Bldg. Albany, NY	(518) 474-4003	Mr. John E. Hull, Deputy Comptroler, Investments & Cash Management

TERRY A. DENNISON
CPA

Terry Dennison is a Principal and is the Unit Practice Head for Investment Consulting in Mercer's Western offices (Los Angeles, San Francisco, Seattle, and Denver). He also provides investment administration and other specialized consulting to clients nationwide. Terry has more than 20 years of experience in various aspects of the investment business including asset management, investment technology, investment asset consulting and investment administration consulting. He was previously responsible for the Investment Consulting Global Resource Group which provides technology and research support to the Investment Consulting practice in the United States and abroad. He was hired by Mercer in March 1988.

Prior to joining Mercer, he was Vice President and Chief Information Officer for Wilshire Associates, and General Manager of its information processing affiliate, Wilshire Financial Services. While at Wilshire, he also provided investment administration consulting services to several large public funds. Previously, he was Vice President and Manager of the Investment Technology (asset management support) and Investment Analytical Services (investment consulting) Divisions of the Continental Illinois National Bank and Trust Company of Chicago. While at Continental Illinois, he was elected twice by the participating organizations as the Chairman of the Trust Universe Comparison Service (TUCS) Executive Committee.

His present consulting clients include a number of large and middle-market public and private sector clients. In the public sector, these include the Arizona State Retirement System, the Colorado Public Employees Retirement Association, the Nevada Industrial Insurance System, and the City of Philadelphia Board of Pensions. In previous positions, Mr. Dennison's consulting clients have included the State Teachers Retirement System of California and the County of Sacramento California.

Mr. Dennision graduated from the University of Wisconsin with a Bachelor of Arts in Psychology and a Master of Business Administration in Finance, Investments, and Banking.

KRISTINE L. FORD
CFA

Kristine Ford (Kris) is a senior consultant in the Chicago office of Mercer Investment Consulting. Ms. Ford works with corporate, defined benefit and defined contribution plans, Taft-Hartley plans, public funds, and endowment funds. Ms. Ford's primary client activities focus on the development and evaluation of investment programs, investment managers and custodians, and evaluation of performance results. Additionally, she has been involved in such projects as the search and selection for emerging minority investment managers, refinement of asset class and manager structure, and risk management evaluation.

Ms. Ford has over 24 years of experience in investment and employee benefit consulting. For the five year period prior to joining Mercer in August 1989, Ms. Ford was a senior executive with a Chicago investment management firm. As a founding member of that firm, she established various systems to support the internal financial records and both firm and client investment activity records. Her earlier positions were with Continental Bank, in investment analytical services and trust administration.

Ms. Ford graduated from the University of Illinois with a Bachelor in Science in Psychology and received a Masters of Business Administration from Lake Forest School of Management.

LAWRENCE E. GIBSON
CFA

Based out of our Richmond office, Larry Gibson is the Leader of Mercer's U.S. Investment Consulting practice. He is also a member of several internal policy, practice and process development entities including the Global Investment Consulting Practice Group and the U.S. Retirement Practice Group. Mr. Gibson currently manages 12 client relationships. He was hired by Mercer in May 1989.

Mr. Gibson has formerly coordinated a full range of investment consulting services to a number of private and public sector organizations. With over 23 years of investment industry experience, Mr. Gibson has held positions as president of a registered investment advisory firm, providing service to institutional investors and as senior vice president and director of institutional and employee benefit services at a major bank in Nashville, Tennessee.

Besides being a Chartered Financial Analyst, he is also licensed (Series 7; Series 65) by the National Association of Securities Dealers and the New York Stock Exchange

Mr. Gibson received his Bachelor of Science from the University of Tennessee.

Attachment 2
Investment Committee – Item 4
April 6, 1999

GENERAL PENSION CONSULTANT(S) RFP 2P199806

SUMMARY OF SCORES

FIRM	PROPOSAL EVALUATION AVERAGE SCORE	FEE SCORE	TOTAL SCORE
Pension Consulting Alliance, Inc. (PCA)	136	86	222
MERCER Investment Consulting, Inc.	118	100	218
BARRA RogersCasey	111	91	202
Watson Wyatt Investment Consulting	119	72	191
Callan Associates, Inc.	131	42	173

Attachment 3
Investment Committee – Item 4
April 6, 1999

STATE TEACHERS' RETIREMENT SYSTEM
REQUEST FOR PROPOSAL
REAL ESTATE CONSULTANT

FINALIST INTERVIEW EVALUATION

_____
Name of Proposer

CATEGORY	MAXIMUM POINT SCORE	PROPOSER'S POINT SCORE
Organization and Staff Background	50	
Services	50	
Overall Presentation	50	
TOTAL POINTS	150	

COMMENTS:

_____ _____
Evaluator Date

Attachment 4
Investment Committee – Item 4
April 7, 1999

PROPOSED
RESOLUTION
OF THE
CALIFORNIA STATE TEACHERS' RETIREMENT BOARD
INVESTMENT COMMITTEE

Subject: General Pension Consultant
Contract No. _____

RESOLUTION NO. _____

WHEREAS, The Board is responsible for managing the California State Teachers' Retirement Fund (Fund), a pension fund; and

WHEREAS, The Board desires to retain a firm with expertise in pension investment consulting pursuant to Education Code 22353; and

WHERAS, _____ is an expert in pension investment consulting and is capable of performing such services; Therefore, be it

RESOLVED, That the Board authorizes staff to execute a contract with _____to provide the aforementioned services for up to five (5) years.

Adopted by:
Investment Committee
on April 7, 1999_____

Ratified by:
Teachers' Retirement Board
on April 8, 1999_____

_____
James D. Mosman
Chief Executive Officer